Response to Comments

Proposed PM_{10} Maintenance Plan
Section IX.A.10, Emission Limits
Section IX.H, and Associated Rule Revisions

Commenters on the PM_{10} Maintenance Plan and Associated Rules

Wasatch Clean Air Coalition
Utah Chapter of the Sierra Club (submitted at public hearing)
UDOT
Graymont Western US Inc.
Wasatch Front Regional Council
Mountainland Association of Governments
EPA
Environmental Defense and Utah Chapter of the Sierra Club
Hill Air Force Base
Kennecott
UIENC
Geneva Nitrogen

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A. General Comments:

Comment # 1. *Under EPA's interpretation of the Clean Air Act, the Natural Events Action Plan for Salt Lake County must be adopted as a SIP revision and submitted to EPA for approval as part of the maintenance plan. {Comment made by the EPA; # A1}*

Response: The State submitted a Natural Events Action Plan (NEAP) to EPA for review. We have received comments on the plan from EPA, and we are currently reviewing those comments and working with EPA staff to prepare proposed responses to each. It is our intent to have the NEAP finalized prior to EPA's approval of the PM_{10} Maintenance Plan.

Comment # 2. *EPA requests that the State withdraw the February 6, 1996 State Implementation Plan revisions to R307-2-10, Section IX.A.6.f of the SIP, Diesel Inspection and Maintenance (I/M) Program, and Section XXI, Diesel Inspection and Maintenance Program, of the 1996 SIP revision. {Comment made by the EPA; # A2}*

***Response*:** The original PM_{10} SIP included credit for a diesel I/M program that was phased in by Davis, Salt Lake and Utah counties, beginning in 1994. The program was fully implemented by Section XXI, Diesel Inspection and Maintenance Program, which was submitted to EPA in February 1996. EPA has failed to approve that SIP. UDAQ has submitted four separate requests to EPA seeking credit for the Diesel I/M program. We still believe that our justification for credit has been more than adequate, and we again urge EPA to approve the Diesel I/M SIP.

Deleting the Diesel I/M SIP would require a separate rulemaking, including a public hearing, because it is incorporated by R307-110-29, and no changes have yet been proposed in that rule.

B. Section IX.A.10 – PM_{10} Maintenance Plan:

Document Organization:

Comment # 3. *UDAQ has combined 3 different nonattainment areas into one maintenance plan. Generally, EPA cannot partially act on a maintenance plan. UDAQ may want to consider reorganizing the document so that there is a separate maintenance plan and demonstration for each area. {Comment made by the EPA; # A3}*

> ***Response*****:** DAQ will reorganize both Part A and Part H such that the Utah Air Quality Board may propose a separate maintenance plan for each of the three areas. There are certain administrative differences in the circumstances surrounding each of these areas, and this should allow EPA more latitude to address these specific concerns.
>
> DAQ will also prepare an intermediate copy of both Part A and Part H in order to more clearly show the reader how it addressed each of the comments summarized herein.

Comment # 4. *Does UDAQ intend to retain in the federally approved SIP all of sections IX.A.1 through IX.A.9 (currently Section 9, Part A, 1-9 of the federally approved SIP) in addition to incorporating the maintenance plan into section IX.A.10? {Comment made by the EPA; # B1}*

> ***Response*****:** As noted on page 1 of the proposed Maintenance Plan (lines 28-30), the provisions of Section IX.A.1-9 are retained for informational and historic purposes, but are superceded by the new section IX.A.10. UDAQ agrees however that this should be made clear to the reader of sections 1-9, and will therefore propose to clarify this in the table of contents and on the title page at the beginning of Section IX.A. This will not constitute a rulemaking action. In addition, the language on page 1 will be clarified as follows:
>
> "While the Maintenance Plan could be written to replace all that had come before, it is presented herein as an addendum to Subsections 1-9 in the interest of providing the reader with some sense of historical perspective.[Subsections 1-9 are retained for historical purposes, while existing subsection 10 (transportation conformity for Utah County) is herein replaced with a more current evaluation of transportation conformity.]"

Comment # 5. *(EPA # B2) Section IX.A.10 was approved into Utah's SIP when EPA approved revisions to the Utah County PM_{10} SIP, effective January 22, 2003 (67 FR 78181). The existing section is titled Transportation Conformity and consists of language specific to Utah County's PM_{10} conformity budgets. Does UDAQ intend for the*

PM_{10} Maintenance Plan to supersede and replace the existing SIP section? If so, this should be stated. {Comment made by the EPA}

***Response*:** Yes. This was probably an oversight in the numbering of the proposal, but in retrospect it will achieve the desired outcome of retaining, for historical purposes, subsections 1-9 while superceding subsection 10, transportation conformity for Utah County.

As proposed, subsection IX.A.10.c(6) is to be the transportation conformity section for Salt Lake and Utah Counties and Ogden City, and will supercede the previously approved (67 FR 78181) Utah County PM_{10} section IXA.10 and its MVEBs with a new Transportation Conformity budget defined for 2017 and beyond.

The language proposed in the first paragraph of Subsection IX.A.10.c(6)(c) already indicates that the Utah County conformity budgets for 2010 and 2020 that were previously approved by EPA are considered withdrawn. However, DAQ will re-word that sentence as follows to provide additional clarity:

"Upon the approval of this Maintenance Plan by EPA, the previously approved Subsection IX.A.10, including Utah County Mobile Source budgets for years 2010 and 2020 will be considered repealed and these new MVEB will take effect for future conformity determinations for 2017 and beyond."

The Metropolitan Planning Organization (MPO) for Utah County, Mountainland Association of Governments, supports this approach.

Monitored Air Quality Data:

Comment # 6. *On page 7, Section IX.A.10.b(1)(a), UDAQ states that expected exceedances are calculated from the (AIRS) data base and that "any data which had been flagged as inappropriate for use in making such determinations, whether concurred with by EPA or not, was not considered here." For two exceedances at Magna in 2001 (causing a NAAQS violation) and exceedances at Ogden No. 2 on July 4, 2002 and July 4, 2003, EPA Region 8 has informed Utah DEQ that no exceptional or natural event flag is applicable or appropriate for these exceedances, and that they may not be excluded from regulatory calculations. These exceedances should be included in the Tables IX.A.30 and IX.A.32 and in the text discussing the exceedance history of Salt Lake County and Ogden City monitors. Similarly, these should be factored into the expected exceedances shown in Tables IX.A.33 and IX.A.35 (on pages 14 and 22 respectively). {Comment made by the EPA; # B5, includes EPA comments B13 and B14}*

Response: UDAQ still believes it appropriate to consider only the data which has not been flagged for the purposes of evaluating: 1) whether an area is attaining the NAAQS and 2) determining that the improvement in air quality is due to permanent and enforceable reductions in emissions. These discussions are both

prerequisites to redesignation under section 107d of the Clean Air Act. The reason for this is that data is flagged when circumstances indicate that it would represent an outlier in the data set and not be indicative of the entire airshed or the efforts to reasonably mitigate air pollution within. This is anticipated in Appendix N to Part 50 – "Interpretation of the National Ambient Air Quality Standards for Particulate Matter" which says: "Data resulting from uncontrollable or natural events, for example structural fires or high winds, may require special consideration. In some cases, it may be appropriate to exclude these data because they could result in inappropriate values to compare with the levels of the PM standards." Nevertheless, UDAQ received a number of comments on this issue, and will modify the proposed maintenance plan (at sections IX.A.10.b(1) and 10.b.(3)) to more fully explain this. As revised, the plan will also include a discussion of what the data points were that were flagged, and how this would affect the discussions in the plan should EPA eventually conclude that it would not concur with the flags attached by UDAQ. EPA has in fact "not concurred" with the two exceedances measured in Ogden on the 4th of July. By contrast, it has only indicated to UDAQ that it intends not to concur with the two exceedances measured at Magna in 2001. Accordingly, Tables IX.A.30 – 35 have been revised to include both sets of data involving the number of expected exceedances predicted for each monitoring station. Discussion is provided for each of the flagged exceedances. The data is also discussed in the context of the annual arithmetic mean concentrations presented in Figures IX.A.28 – 31, Figures IX.A.35 – 37, and IX.A.39.

Comment # 7. *In order to provide full disclosure, the maintenance plan should include all of the PM_{10} monitoring data measuring high concentrations for all three nonattainment areas. This would include all exceedances with flagged or otherwise excluded data. The proposed plan does not provide the public with a clear history of PM_{10} concentrations. Specifically, the plan should explain the violation of the 24-hour PM_{10} standard in 2001 at the Magna station, which occurred while Kennecott had violated its permit and SIP condition requiring that the tailings pond be covered in water at all times. The State issued an NOV and was supposed to fine Kennecott, but we do not believe this action was taken. Salt Lake County could have been bumped up to a "serious" nonattainment area designation, and the maintenance plan needs to make a full disclosure of this information. In addition, there were 8 other exceedances in the 2002-2004 period, for which DAQ has submitted a Natural Events Action Plan, but EPA has not yet accepted that Plan or the flags on those exceedances to label them exceptional or natural events. Until they do, we have serious doubts as to why Salt Lake County would qualify for a redesignation to attainment. The official public record must accurately reflect the status of PM_{10} data in these nonattainment areas. {Comment made by Environmental Defense and Utah Chapter of the Sierra Club}*

Response: As discussed in the response to comment # 6 UDAQ will modify the proposed maintenance plan (at sections IX.A.10.b(1) and 10.b.(3)) to more fully explain the data that was flagged, why it was flagged, and how this would affect the discussions in the plan should EPA eventually conclude that it would not

concur with the flags attached by UDAQ. As pointed out in the revised plan, almost all of these events have been included in the proposed Natural Events Action Plan (NEAP) as typifying the circumstances under which it would be appropriate to attach a flag to the monitoring data. UDAQ expects that the EPA will concur with these flags when it approves the NEAP. Such concurrence would indicate that, despite regional control measures and mitigative action to address fugitive dust, the wind-speeds were such that it would be unreasonable to expect that high concentrations of blowing dust could have been prevented.

Concerning the enforcement action taken against Kennecott: UDAQ required Kennecott to update and submit a comprehensive fugitive dust control that would address the dust problems on April 20, 21, 22, 27, 28, May 2 and 3, 2001. Kennecott's June 7, 1994 fugitive dust plan was deemed inadequate, and the new plan specifically required Kennecott to address the issue of poor trafficability (access) to, and control of all the cells of the tailings impoundment. The NOV was issued on August 10, 2001. Kennecott responded by: updating the old fugitive dust control plan, constructing additional access roads in the reclaim areas, continuing to re-seed the reclaimed cells, and installing additional water irrigation systems to the dry areas. The penalty was lumped into one settlement agreement of $113,340.00 along with four other violations. $95,940.00 was paid in cash and $17,400 was credited to an SEP (green tag power). The tailings penalty by itself was $70,000.00, and the final agreement date was 1/6/2003.

Comment # 8. *On page 8, Section IX.A.10.b(1)(a), UDAQ states that "the Salt Lake County PM_{10} nonattainment area has not exceeded the 24-hour standard since 1992." UDAQ should revise the language to reflect that the Salt Lake County area had a violation at Magna in 2001 and had 8 measured exceedances in 2002-2004 that UDAQ has flagged as natural events. {Comment made by the EPA; # B6}*

Response: UDAQ agrees that the language on page 8, Section IX.A.10.b(1)(a), is in error. As revised, the language will read as follows:

"Additional information presented in Subsection IX.A10.b(3) shows that the Salt Lake County PM_{10} nonattainment area has not [violated][~~exceeded~~] the 24-hour standard since 1992[nor has it exceeded the annual standard since 1993]. It actually attained [both standards][~~the standard~~] as of December 31, 1995, and has remained in compliance with the PM_{10} NAAQS through 2004."

As discussed in the response to comment # 6, UDAQ will modify the proposed maintenance plan (at sections IX.A.10.b(1) and 10.b.(3)) to more fully explain the data that was flagged. See the response to comment #33 for an explanation of the language regarding the annual standard.

Comment # 9. *On page 9, Section IX.A.10.b(1)(a), UDAQ states that "the Utah County PM_{10} nonattainment area has not exceeded the 24-hour standard since 1993." UDAQ*

should revise the language to reflect that the Utah County area has had 2 measured exceedances from 2002-2004 that UDAQ has flagged as natural events. {Comment made by the EPA; # B7}

Response: As discussed in the response to comment # 6, UDAQ will modify the proposed maintenance plan (at sections IX.A.10.b(1) and 10.b.(3)) to more fully explain the data that was flagged.

Comment # 10. *On page 9, Section IX.A.10.b(1)(a), UDAQ states that "the Ogden City PM_{10} nonattainment area has not exceeded the 24-hour standard since 1993." UDAQ should revise the language to reflect that the Ogden City area has had 1 measured exceedance~~s~~ that UDAQ flagged as a natural event and 2 measured exceedances that UDAQ flagged as exceptional events, with which EPA has not concurred. {Comment made by the EPA; # B8}*

Response: As discussed in the response to comment # 6, UDAQ will modify the proposed maintenance plan (at sections IX.A.10.b(1) and 10.b.(3)) to more fully explain the data that was flagged.

Comment # 11. *In Part A, Figures 38 and 39 do not include the monitored data for 2001 - 2004, which included exceedances on July 4, 2003 and 2004, presumably from fireworks at a park near the monitor. Apparently, these data were flagged in a category called "infrequent large gatherings," but EPA has not accepted the flag. Holiday fireworks are regular events and not truly infrequent; the public should be warned that the fireworks are not harmless, and the monitored data should be included in this Plan. {Comment made by Wasatch Clean Air Coalition}*

Response: The data monitored in Ogden City on the 4th of July (in both 2002 and 2003) is discussed in the revised plan at sections IX.A.10.b(1) and 10.b.(3). Therein, UDAQ explains that it does not consider this data to be representative of the entire Ogden area, and that perhaps EPA would have concurred with the flags had there been an existing category (of reasons for such concurrence) that was more appropriate to the actual nature of the events. Nevertheless, UDAQ agrees that the fireworks, in the parking lot where the monitor is located, elevated the particulate concentrations to levels that are considered unhealthy. Since these occurrences, UDAQ has worked with local fire officials to assure that all fireworks in the area are legal and are being used in a manner that will not adversely impact the community.

Mobile Vehicle Emission Budgets:

Comment # 12. *(EPA # B30; includes EPA comments # B31 and F3) On page 38, section IX.A.10.c(6), Says that the road dust inventory was discounted by 75% for purposes of demonstrating maintenance, but that it was not discounted for purposes of establishing motor vehicle emissions budgets (MVEBs). Even if this is appropriate, it is*

not acceptable to use one method to demonstrate maintenance and another to set budgets. Budgets must reflect inventory values used in demonstrating maintenance. {Comment made by the EPA}

Response: The EPA-approved PART5 model provides an approved estimate of road dust emissions. However, particulate precipitation near the road results in only an estimated 25% of road dust reaching the air quality monitors. The justification and citations for the 75% performance adjustment to the air dispersion model are provided in the response to Comment #104. Without the 75% reduction, the air dispersion model would significantly over-predict the primary PM component throughout the modeling domain. Consequently, the projected Mobile Source inventories and budgets appropriately reflect the actual outputs of the PART5 EPA-approved model and were not discounted to support the projected concentrations at the monitoring stations derived from the air dispersion model. This direction is consistent with existing and forthcoming EPA mobile source models.

Comment # 13. *Mobile Source PM_{10} Emissions Budgets: Utah County currently has an approved 2003 budget. The 2003 budget will remain in place and must be used in any conformity analysis required for years prior to 2017 unless the state establishes a new revised budget for 2003. Alternatively, Utah could leave the current 2003 budget and establish a 2005 budget. This also pertains to Salt Lake County. There are currently approved budgets for Salt Lake County for 2003 that would apply to years prior to 2015. {Comment made by the EPA; # B33; includes EPA comments # B34}*

Response: Anticipating final EPA approval of this plan in 2007, the only budget year required for Transportation Conformity in Utah County is for 2017 and beyond. The response to Comment #5 includes rewording of a sentence in Section IX.A.10.c(6)(c) repealing the Utah County mobile source budgets for 2010 and 2020. The Transportation Conformity Budget years established for Salt Lake County and Ogden City are for 2015 and 2017 and beyond anticipating a positive adequacy determination for transportation conformity purposes in 2005 and a final SIP approval in 2007. The WFRC MPO approve this strategy. The existing approved budget for 2003 will not be a transportation planning issue subsequent to the EPA approval of this plan.

Comment # 14. *(EPA # B36) In establishing the MVEB for each area, Utah has used a rounding convention (rounding up) that is not consistent with the attainment/maintenance demonstration. This is not appropriate.*

***Response*:** When the plan was released for public comment, the MVEB projections for the Alternative 2 MVEBs were rounded up to the nearest whole number. Alternative 2 is no longer included in the plan. The Alternative 1 MVEBs were not rounded up and include the safety margins requested by the MPOs. However, to resolve any confusion over rounding errors, the MVEBs for each area now includes two significant digits to the right of the decimal place.

Comment # 15. *The estimated motor vehicles emissions for each of the three areas in this SIP are the same for both 2015 and 2017. An explanation for why the emissions estimates and associated factors used to calculate the emissions are the same for different years in a rapidly growing metropolitan area must be included. {Comment made by the EPA; # B37}*

> ***Response*****:** The 2015 budget was provided in anticipation of a positive mobile adequacy determination for transportation conformity purposes for Salt Lake County and Ogden City later this year (2005). The 2017 and beyond budget is established to provide a ten-year maintenance demonstration in anticipation of a final SIP approval in 2007. The motor vehicle emissions budgets provided for 2015 and 2017 and beyond do not jeopardize the validity of the attainment demonstration and meet transportation conformity requirements through 2030.

Comment # 16. *The public should have the opportunity to comment on the final proposed emission budgets before they are submitted to EPA; the present proposal includes alternatives but it is difficult to tell what the final budgets will be. The budgets that are proposed for 2015 and 2017 should apply in later years as well. The safety margin should remain with the Air Quality Board; it is unlikely that there will be a safety margin in the future and transportation planners should not count on having a higher emissions budget in the future. {Comment made by Environmental Defense and Utah Chapter, Sierra Club}*

> ***Response*****:** The Air Quality Board requested comments on two proposals for each pollutant for each geographic area; the AQB will choose from those alternatives. Thus, the final budgets have been available for public comment. By rule, the last year for which mobile source budgets are identified in the plan apply to all future years, so whatever budgets are adopted for 2015 and 2017 will continue to apply in subsequent years.

Safety Margin:

Comment # 17. *(EPA # B32) On pages 38 – 40 of Section IX.A.10.c(6) Mobile Source Budget for Purposes of Conformity for Salt Lake County, text discusses a "safety margin." The safety margin must be expressed in terms of emissions and not ambient concentration. A safety margin expressed in emissions level might correlate to an amount of pollutant concentration but the state must explain what safety margin it is are utilizing in terms of emissions such as tons per day. For example, for Salt Lake County, the State could indicate that the modeling, using 52 tons per day of PM_{10} and 35 tons per day of NOx mobile source emissions, demonstrates maintenance at 148.5 µg/cubic meter. The State could then state that this shows the safety margin is at least 3.14 tons per day of PM_{10} (52 tons per day minus 48.86 tons per day) and 0.04 tons per day of NOx (35 tons per day minus 34.96 tons per day), and indicate that it is allocating this portion of*

the safety margin to the mobile source budgets. This same comment applies to the budget discussion for Utah County and Ogden City. {Comment made by the EPA}

***Response*:** The discussion of the safety margin in this plan is consistent with the discussion provided in the "Mobile Source Technical Support Document for the Utah County PM_{10} SIP Revision," dated June 2002 and approved by EPA effective January 22, 2003 (67 FR 78181). CFR 40 Part 93.101 states "Safety margin means the amount by which the total projected emissions from all sources of a given pollutant are less than the total emissions that would satisfy the applicable requirement for reasonable further progress, attainment or maintenance." The MVEB provided for Purposes of Conformity for each area in the plan clearly demonstrates the requested allocation of a portion of the safety margin for the three areas will not exceed the NAAQS for each pollutant throughout the modeling domain. Since the plan uses a dispersion model, expressing the allocation of a portion of the safety margin in concentration is reasonable. Table XX identifies the allocation of each portion of the safety margin in tons/day for PM_{10} and NO_X for each area.

However, to provide even greater clarity, UDAQ has added the language suggested by EPA to Section IX.A.10.c(6) to show how the safety margin would be expressed in terms of emissions. The calculation was made for each of the three conformity budgets.

Comment # 18. *(EPA # B38) It appears that no inspection and maintenance (I/M) credit was taken in the mobile source modeling for the projected years. Please include a discussion regarding why this decision was made, a justification behind this decision, and a rationale concluding this decision is appropriate. Please include impacts of modeling a "no I/M" scenario in future years on safety margin and mobile source transportation conformity budgets. {Comment made by the EPA}*

Response: The Metropolitan Planning Organizations (Mountainland Association of Governments and Wasatch Front Regional Council) calculated the on-road mobile source emissions for the urbanized areas in the UAM-AERO modeling analysis. The following discussion provides the rationale the MPOs provided for not including the benefits of an I/M program in these calculations: Emissions were calculated with the assumption that the vehicle emissions Inspection and Maintenance (I/M) program implementation may change in the future. This assumption is based on recent state legislation in Utah that has reduced I/M coverage for certain vehicles and model years. Further, as EPA MOBILE models continue to evolve, the emissions credit obtained from I/M programs has significantly decreased, reflecting the benefits derived from advancing vehicle technology and cleaner fuels. The assumption is conservative since most vehicles in the modeling domain fall under the jurisdiction of an I/M program. Therefore, actual vehicle emissions are expected to be lower than projected in the SIP without any I/M controls. The benefits of an I/M program will effectively provide an additional safety margin that should accommodate unanticipated program or

demographic changes within the domain. For now, the vehicle emissions inspection is a required part of vehicle registration for most vehicles and will be included in the conformity analysis. I/M programs are currently mandated under the Carbon Monoxide and Ozone SIPs.

Comment # 19. *(EPA # B40) On page 43, lines 32 – 35: UDAQ needs to add language indicating that these values represent the sum of the additions to the motor vehicle emissions inventories for all three areas. It is not clear from the existing text. {Comment made by the EPA}*

***Response*:** DAQ agrees, and will clarify the language as follows:

"Using the procedure described above, some of the safety margin indicated earlier in Subsection IX.A.10.c.(6) has been allocated to the mobile vehicle emissions budgets. The results of this modification are presented below.

Inventory: The emissions inventory was adjusted by adding the following sums to the on road mobile source emissions totals for the entire modeling domain:

in 2015:	4.04 ton/day	PM_{10}	and	0.19 ton/day NO_X
in 2017:	5.41 ton/day	PM_{10}	and	2.49 ton/day NO_X "

Note also the revision to the reference in the preceding paragraph, and see response to comment # 53 for explanation.

Comment # 20. *The SIP shows expected concentrations in 2017 and sets motor vehicle emission budgets (MVEB) for 2017. EPA is concerned that when a conformity analysis is performed for the transportation plan for the year 2030 that the estimated motor vehicle emissions will exceed the MVEB, since little or no~~t~~ safety margin is used or available to establish budgets. {Comment made by the EPA; # B35}*

***Response*:** The MPOs have reviewed the mobile source emission budgets in the plan for 2017 and believe these budgets are adequate for future conformity determinations for years through 2030 and possibly later years barring unforeseen changes in emission modeling practices as presently constituted.

Comment # 21. *We do not believe there will be any safety margin in the future, and mobile sources should not count on having a higher emissions budget in the future. Any supposed safety margin should remain with the Air Quality Board. {Comment made by Sierra Club, Utah Chapter}*

***Response*:** The evaluation of a safety margin is documented in the plan. The magnitude of the safety margin is based on the best available emission projections and airshed modeling. Allocation of a portion of the safety margin to Mobile Sources is within the discretion of the Utah Air Quality Board, and UDAQ staff

will recommend that the Board advance the Maintenance Plan including Alternative 1 as the final set of mobile vehicle emission budgets.

Comment # 22. *UDOT supports the "Alternative 1" analysis method, which sets the direct PM_{10} and NO_X mobile vehicle emission budget for 2025 and 2017 in Salt Lake County, Ogden City and Utah County. UDOT understands that the new budgets for Salt Lake County and Ogden City can be used for conformity as soon as the EPA conducts its adequacy review and publishes a positive finding in the Federal Register; for Utah County, the previously approved Utah County Mobile Source budgets for 2010 and 2020 remain in place until EPA approves the Maintenance Plan. {Comment made by the Utah Department of Transportation}*

Response**:** See response to comment # 21.

Comment # 23. *We recommend that the Air Quality Board adopt Alternative 1 mobile source emissions budgets for Salt Lake County and Ogden City. WFRC is committed to manage mobile source emissions at a level below the emissions budget proposed. {Comment made by the Wasatch Front Regional Council}*

Response**:** See response to comment # 21.

Comment # 24. *We request that the Air Quality Board approve the Utah County mobile source emission budget of 21 tpd of NOx and 25 tpd of direct PM_{10} for the year 2017 and beyond. This will allow a small safety margin that will allow us to maintain continuous conformity with low levels of PM_{10} throughout the life of the Plan. Utah County's population is expected to more than double in the next 30 years; a robust transportation system is required for the transport of goods, worker commutes, tourism and access to all aspects of a healthy society. The safety margin we request can be compared with the margin that stationary source industries have in being permitted for allowable emissions, instead of actual emissions; Table 37 in the Plan shows the difference between allowable and actual emissions. {Comment made by the Mountainland Association of Governments}*

Response**:** See response to comment # 21.

Comment # 25. *While the public notice indicates that the Board requests comment on whether or not to allocate part of the safety margin to the motor vehicle emissions budget, the language of Plan (IX.A.10.c(6)indicates that, should the modeling results* show that the area would still be maintaining the PM_{10} standard using the expanded MVEB, Alternative 1 *[that is, allocation of the safety margin to the MVEB]* would be included. *We believe the Board should retain discretion over any safety margin that might be realized rather than committing it irrevocably to the MVEB or any other particular emissions budget. It is impossible to determine today what will be the best use of any such safety margin for 10 or more years into the future. {Comment made by UIENC and endorsed by Kennecott}*

Response**:** See response to comment # 21.

Emission Reduction Credits:

Comment # 26. *On page 37, section IX.A.10.c(4), "Emission Reduction Credits": The intent and meaning of this section is unclear. The text should define Emission Reduction Credits and describe how they were included in the modeling.*

Also, the second sentence of the text may not be consistent with proper principles for banking emissions. What is the significance of establishing a "baseline for the emission rates relied on" by the maintenance plan?

What is the intent of the third sentence? What emission reduction credits is it referring to, and for what purpose are they allowed?

Finally, we question whether this statement is adequate to ensure that relevant criteria are met for use of banked emissions for offsets or other purposes. We require that banked emissions be surplus (can't be required to meet another requirement), permanent, and quantifiable. We would expect any valid provision regarding banking of emissions to define relevant terms such as "actual," "quantifiable," "enforceable," "permanent," and "surplus," as well as to adequately describe the process for banking and tracking the use of banked emissions. {Comment made by the EPA; # B27}

> ***Response*:** The PM_{10} maintenance plan uses the term "baseline for the emission rates relied upon by this maintenance plan" in accordance with Section 173(a)(1) of the Clean Air Act that establishes the permitting requirements for nonattainment areas.
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> > "173(a) …
> > (1) in accordance with regulations issued by the Administrator for the determination of **baseline emissions in a manner consistent with the assumptions underlying the applicable implementation plan approved under section 110 and this part**, the permitting agency determines that –
> >
> > (A) by the time the source is to commence operation, sufficient offsetting emissions reductions have been obtained…"
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> The baseline for the SIP is also referred to in 40 CFR Part 51, Appendix S and in EPA's 1986 Emissions Trading Policy Statement. The purpose of this section of the maintenance plan is to establish that the registry of existing emission reduction credits was included in the modeling demonstration for the PM_{10} maintenance plan.
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> The PM_{10} maintenance plan refers to "Existing Emission Reduction Credits on file with the UDAQ." UDAQ maintains a registry of emission reduction credits,

and all of the registered credits for PM_{10}, SO_2 and NO_x were included in the modeling analysis as banked emissions. The PM_{10} maintenance plan does not establish the requirements and procedures for using or banking emission offset credits. R307-403 establishes the requirements for permitting of new major sources and major modifications in the PM_{10} nonattainment area, including the banking provisions and requirements that emissions offsets must meet before they could be used in the permitting process. UDAQ is implementing and enforcing this rule in accordance with EPA's interpretation of the rule in the May 5, 1995 approval of Utah's nonattainment NSR rules (FR Vol. 60, No. 87, pages 22277 – 22283). The registry is provided to facilitate the negotiations of sources that are seeking to use the credits.

Comment # 27. *Kennecott interprets the language on pages 35 and 37, as well as the language in the rules, to preserve the existing Emission Reduction Credits (ERCs) as well as the existing system for banking ERCs from emission reduction for use as offsets in the future. We ask the Division to confirm this interpretation. {Comment made by Kennecott}*

Response**:** The emission reduction credits in Utah's registry were included in the modeling for the maintenance plan to preserve these credits in the baseline for the SIP. The PM_{10} maintenance plan does not establish the requirements and procedures for using or banking emission offset credits. R307-403 establishes the requirements for permitting of new major sources and major modifications in the PM_{10} nonattainment area, including the banking provisions and requirements that emissions offsets must meet before they could be used in the permitting process. UDAQ is implementing and enforcing this rule in accordance with EPA's interpretation of the rule in the May 5, 1995 approval of Utah's nonattainment NSR rules (FR Vol. 60, No. 87, pages 22277 – 22283). The registry is provided to facilitate the negotiations of sources that are seeking to use the credits.

Comment # 28. *The proposed Plan and rules do not indicate any changes in the provisions for emission reduction credit. We request confirmation of this, or an explanation of what changes are expected as a result of this Plan. {Comment made by UIENC}*

Response**:** The commenter is correct that the maintenance plan does not change any provisions for emissions offset credits. The requirements for the use of emissions offset credits in nonattainment areas are found in R307-403. A new rule that was proposed to support the goals of the maintenance plan will maintain the offset provisions for SO_2 and NO_x in Salt Lake and Utah Counties when these areas are redesignated to attainment. The new rule relies on the process and procedures established in R307-403 for establishing and using emission offset credits.

Contingency Measures:

Comment # 29. *On page 45, line 19, Section IX.A.10.c(10), "Contingency Measures": Per section 175A(d) of the CAA, you must list as potential contingency measures any requirements removed from the SIP for the area. This includes any stationary source limits and requirements that are being removed from the SIP for Salt Lake or Utah Counties. These need not be individually identified. Instead, it can refer to all stationary source requirements that were in effect before adoption of new section IX.H. {Comment made by the EPA; # B42}*

***Response*:** Utah is not removing provisions from the SIP that were needed to attain the standard but are no longer needed to maintain the standard. Instead, Utah is redefining RACM to focus on those emission units that have a significant impact on PM_{10} levels. The effectiveness of the RACM controls will not change, and the SIP will be more functional. Part H of the SIP will be submitted to EPA as a SIP revision, not as part of the maintenance plan.

When the Utah PM_{10} SIP was developed in the late 1980's and early 1990's detailed requirements for stationary sources were included in the SIP without understanding the future implications. These details were not necessary to establish RACM in the SIP because it was the larger emission units that affected the modeling demonstration. The level of detail quickly became unmanageable because even minor changes required a SIP revision, and the early SIP revisions that were sent to EPA were never approved.

In 2002 the State of Utah submitted a PM_{10} SIP revision that addressed this problem for stationary sources in Utah County. The SIP was focused on the larger emission units, and the level of detail was reduced. The requirements for smaller sources and smaller emission units were moved to approval orders for the sources, and any future changes to those sources will be subject to the permitting requirements in R307-401, R307-403, or R307-405 (BACT or LAER will be required). EPA approved the SIP revision on December 23, 2002, in part because the revised RACM determination was still valid. The proposed revisions to Part H follow the same approach that was used in the 2002 revision to the SIP.

Section 175A of the Act requires the maintenance plan to "include a requirement that the State will implement all measures with respect to the control of the air pollutant concerned which were contained in the State implementation plan for the area before redesignation of the area as an attainment area." UDAQ anticipates that EPA will approve the revision to Part H prior to, or concurrently with the approval of the maintenance plan. Therefore, the revised RACM determination would be part of the SIP at the time of approval. In the future, if Utah determines that RACM is no longer required to demonstrate attainment or maintenance, it would be appropriate to place the RACM requirements in the SIP as contingency measures.

Comment # 30. *Any control measure removed from the nonattainment SIP must be included in the maintenance plan as a possible contingency measure. Therefore, Utah should include all the control measures that are proposed for removal, such as the more inclusive stationary source requirements that were included in the original SIP. Utah should consider removing or suspending the use of banked emissions if contingency measures are necessary. The state's banking registry includes large amounts of banked PM, SO_2, and NO_x emissions that could cause problems if these emissions are bought and used by new or expanding sources. {Comment made by Environmental Defense and Utah Chapter, Sierra Club}*

> ***Response*****:** The response to comment #29 addresses the issue of including old SIP requirements as contingency measures. The modeling demonstration included all of the PM_{10}, SO_2 and NO_x emissions that are included in the registry, and still showed attainment. In addition, when the area is redesignated to attainment for PM_{10}, the PSD permitting program and the state permitting program will require an impact analysis for new or modified stationary sources to ensure that the NAAQS is maintained. However, if there are future violations of the PM_{10} NAAQS, section IX.A.10.c of the plan contains contingency measures that will be considered to address the problem, including further controls on stationary sources. The controls selected will depend on the nature of the violation. A summertime dust problem would require a different solution than a wintertime inversion problem. If the violation is attributed to growth of new sources then changes to the offset provision, such as increasing the offset ratio for PM_{10} or one of its precursors, may be an option. This approach has already been used as a proactive measure to control the growth of VOC sources in the ozone maintenance area. These types of decisions will be made, as described in section IX.A.10.c of the plan if a future violation of the PM_{10} standard occurs.

Clarifications & Corrections:

Comment # 31. *On page 2, section IX.A.10.a(2), there is a typo in the first paragraph. It states "On February 3, 1995, Utah submittal amendments . . ." which should read "On February 3, 1995, Utah submitted amendments . . ." {Comment made by the EPA; # B3}*

> ***Response*****:** UDAQ agrees, and will make the appropriate revision.

Comment # 32. *The discussion of the Magna monitoring station on page 4 says, "It is largely impacted (at times) by blowing dust from a large tailings impoundment..." We believe this clause should be put in the past tense, because the South Impoundment is no longer in use and has been reclaimed, with vegetation on all but a few hundred acres that are either saturated or under water. It is no longer a source of significant dust, and the*

North Impoundment is well controlled. We suggest adding a broken vertical line to Figure IX.A.26 between 1988 and 1989 with a caption to indicate the implementation of the new dust controls. {Comment made by Kennecott}

***Response*:** The discussion, on page 11 (not page 4), concerns the network of air quality monitors and the situating of individual monitors within the context of the network. The PM_{10} monitor at Magna is described as being located in a suburban residential area and as being largely impacted (at times) by blowing dust from a large tailings impoundment. It is certainly true that improvements have been made at the tailings impoundment, but when wind speeds become excessive the monitor at Magna is still sensitive to windblown dust from the impoundment. This is evidenced by several exceedances recorded in 2001, 2002 and 2003 (see discussions at Comments no. 6, 7 and 8). UDAQ believes the text on page 11 accurately characterizes the significance of a PM_{10} monitor at Magna.

Comment # 33. *In Part A, page 8, lines 8-11, the text should be modified to address the annual standard in Salt Lake County. {Comment made by Kennecott}*

***Response*:** UDAQ concurs with this suggestion, and will propose additional text as indicated below:

"Additional information presented in Subsection IX.A10.b(3) shows that the Salt Lake County PM_{10} nonattainment area has not [violated][~~exceeded~~] the 24-hour standard since 1992[, nor has it exceeded the annual standard since 1993]. It actually attained [both standards][~~the standard~~] as of December 31, 1995, and has remained in compliance with the PM_{10} NAAQS through 2004."

See the response to comment #8 for an explanation of the language regarding the 24-hour standard.

Comment # 34. *In SIP IX.A.10, on page 12 in line 42, there is a reference to IX.A.10.a(1)(iv). There is no such citation; it should be IX.A.10.a(1)(4). {Comment made by Wasatch Clean Air Coalition}*

***Response*:** UDAQ agrees, and will make the appropriate revision, which should be IX.A.10.a(4).

Comment # 35. *On page 12, section IX.A.10.b(1)(d), "EPA Acknowledgement": The relevant discussion is not whether EPA previously determined that the areas (Salt Lake and Utah counties) were attaining, but whether they are currently attaining the standard. {Comment made by the EPA; # B10}*

***Response*:** Section IX.A.10.b(1)(d) follows sections IX.A.10.b(1) (a) through (c) which do in fact address the question of whether all three areas (Salt Lake and

Utah Counties and Ogden City) are currently attaining the standard using the most recent three years of quality assured air quality data. Given however that the language of CAA 107(d)(3)(E)(i) *"The Administrator determines that the area has attained the national ambient air quality standard"* is in the past tense, the discussion presented in Section IX.A.10.b(1)(d) seems relevant as well.

Comment # 36. *On page 12, section IX.A.10.b(1)(c), lines 9 – 12: The State should describe how modeling indicates that the areas are attaining the standard today, not how modeling shows the areas will maintain the standard through 2017. The latter is the maintenance demonstration, a separate requirement. {Comment made by the EPA; # B9}*

Response**:** The span of the modeling analysis, conducted as part of the maintenance plan, covers the years 2005 through 2017. UDAQ will add the following for clarification language (beginning on line 11):

"It shows that all three nonattainment areas [are presently in compliance, and]will continue to comply with the PM_{10} NAAQS through the year 2017."

Comment # 37. *On page 12, section IX.A.10.b(2), EPA suggests that this section should mention the recent revision to the Salt Lake SIP that established different budgets for conformity. {Comment made by the EPA; # B11}*

Response**:** This comment refers to R307-310 that permitted limited trading between the PM_{10} and NOx budgets derived from the existing PM_{10} SIP for Salt Lake County. However, as part of the PM_{10} Maintenance Plan, a new section R307-310-5 is being added that keeps the R307-310 in effect until the day that EPA approves the conformity budget in the PM_{10} Maintenance Plan. Therefore, this flexibility will no longer be permitted, and it is not necessary to provide any further clarrification.

Comment # 38. *On page 13, section IX.A.10.b(3)(a) and on page 27, section IX.A.10.b(3)(b)(III), UDAQ points out that Ogden City began implementing a voluntary woodburning program. Voluntary measures are not considered in the request for redesignation because such measures are not permanent and enforceable. {Comment made by the EPA; #s B12 and B15}*

Response**:** UDAQ understands that voluntary measures are not creditable. Nevertheless, the effect of the program is likely reflected to some degree, along with other creditable measures, in the ambient air quality data trends, and that is why it was mentioned. However, since the point of the exercise is to reasonably attribute the improvement in air quality to emission reductions that are permanent and enforceable, UDAQ will simply strike the language to avoid any confusion. On page 13, section IX.A.10.b(3)(a), the change will be as follows:

"In the case of Ogden City, there were a number of control measures incorporated into the Utah SIP on either a state-wide basis or as applicable to nonattainment areas in general. As discussed in Subsection IX.A.10.a(1) above, these measures were at least partly responsible for bringing the area into compliance with the PM_{10} NAAQS. The introduction of these measures (open burning rule, visible emissions rule, fugitive dust rule, and vehicle I/M)was not so abrupt as was the case in the other two nonattainment areas, but Vehicle I/M did begin in 1990 which is relatively coincident with the peak of measured concentrations for the area. Its effectiveness is seen in all subsequent years. ~~[It is also worth noting that Ogden City implemented a voluntary woodburning control program beginning late in 1992 when the other PM_{10} nonattainment areas implemented mandatory woodburning controls.~~]"

On page 27, section IX.A.10.b(3)(b)(III), the change will be as follows:

"[~~In addition, Ogden began participating in the woodburning program on a voluntarily basis during the winter of 1993.~~]"

Comment # 39. *On page 14, the text should be corrected to say that the standard has not been VIOLATED since 1992, as there have been exceedances since then. {Comment made by Kennecott}*

***Response*:** UDAQ presumes this comment to actually pertain to the discussion on page 8, lines 8-11. As such, see discussion under Comment # 8.

Comment # 40. *On page 27, section IX.A.10.b(4), pertaining to section 110 of the CAA and Part D requirements, the text doesn't address part D requirements. UDAQ should include some discussion regarding the nonattainment area SIPs. For Ogden, this would probably be a statement regarding anticipated EPA approval. ……Also, under this same section, last sentence located at the top of page 28, UDAQ has confused the citations of EPA's federal register actions dated March 9, 2001 and August 15, 1984. EPA suggests changing this sentence to read as follows: "For further detail, see 45 FR 32575 dated August 15, 1984 (Volume 49, No. 159) or 66 FR 14079 dated March 9, 2001 (Volume 66, No. 47)." {Comment made by the EPA; # B16}*

***Response*:** UDAQ agrees, and will add the following language to the end of section IX.A.10.b(4):

"[<u>Part D of the Clean Air Act addresses "Plan Requirements for Nonattainment Areas." One of the pre-conditions for a maintenance plan is a fully approved attainment plan for the area. This is also discussed in section IX.A.10.b(2).</u>

For Salt Lake County, the Part D requirements for PM_{10} were addressed in an attainment SIP approved by EPA on July 8, 1994 (59 FR 35036).

For Utah County, the Part D requirements for PM_{10} were most recently addressed in an attainment SIP approved by EPA on December 23, 2002 (67 FR 78181).

For Ogden City, it is anticipated that the Part D requirements for PM_{10} will be found to have been satisfied via EPA's Clean Data Areas Approach (October 18, 1999).]"

UDAQ will also correct the incorrect Federal Register citation identified in the comment.

Comment # 41. *The data for the "Ogden2" monitor that replaced Ogden1-49-057-0001 is not shown in graphs in Section IX.A.10.b(3). {Comment made by the EPA; # B17}*

***Response*:** Section IX.A.10.b(3) of the proposed maintenance plan addresses the role of emissions reductions in the observed improvement in air quality. Ambient data has only been collected at the Ogden2 site since the summer of 2001, and it was thought that this was too short a time span to reveal any significant trends. Nevertheless, the date from Ogden2 could be combined with the data from Ogden1 in the charts that are shown as Figures IX.A.38 and 39. Some text will also be provided in section IX.A.10.b(3)(a) to explain as much.

Comment # 42. *On page 27, section IX.A.10.b(4), pertaining to section 110 of the CAA and Part D requirements, UDAQ needs to include a discussion of how they've addressed the commitments that were made to EPA by UDAQ in a letter dated April 18, 2002 and included in EPA's federal register action approving revisions to the Utah County SIP, dated December 23, 2002 (67 FR 78181). {Comment made by the EPA; # B18}*

***Response*:** UDAQ agrees that this information is pertinent to the discussion of the proposed PM_{10} maintenance plan. However the commitments made in the above referenced letter are neither section 110 requirements nor Part D requirements, and should not be included in the maintenance plan.

Comment # 43. *On page 30, section IX.A.10.c(a), under Meteorological data: The discussion is not clear. An average reader will be unable to understand the chronology and the importance of the discussion. {Comment made by the EPA; # B19}*

***Response*:** In order to provide more information to the average reader, the following text from the TSD will replace the text presently found in section IX.A.10.c(a):

"(a) Meteorological data

Recent UDAQ meteorological modeling projects using advanced "state of the science" prognostic meteorological models have proven unsuccessful in simulating highly variable Wasatch Front meteorology during inversion conditions. These problems led UDAQ to choose a diagnostic meteorological model called the Diagnostic Wind Model (DWM) model for the January 2001 and February 2002 episodes to avert many of the past modeling problems. The DWM assimilates actual observations of wind speed and direction to diagnose and construct a consistent wind field.

UDAQ embarked on a 4-phase modeling approach in order to develop the most realistic wind fields possible. Each phase of the 4-phase modeling approach utilized unique combinations of observed meteorological data for each analysis. Each of the 4 phases is described below:

Phase 1

The DWM model was run utilizing 60-100 surface observing stations, two radiosondes, and two SODARs per day. The surface station data was taken from the University of Utah MESOWEST database and included a wide variety of station types. Phase 1 of modeling utilized only surface stations with an elevation of 5,500ft or lower. The National Weather Service Salt Lake City radiosonde data was used along with two UDAQ SODAR units operated in Utah and Salt Lake valleys. It was thought that the multitude of available data would allow DWM to produce representative wind fields.

UAM-AERO results showed modeled PM_{10} values that were only 40-50% of the observed values. Model output evaluation showed that PM_{10} was being advected out of the Salt Lake Valley (SLV) and the model domain to the SE. Afternoon up-valley NW winds moved PM_{10} into the mountains to the SE of the SLV. At night, winds became light and variable at most surface stations and as a result were unable to return the PM_{10} back to the SLV. Additionally, UDAQ's hypothesized benefit of having a multitude of surface stations actually induced unrealistic vertical motions due to surface convergence of widely varying wind directions.

Phase 2

The failings of phase 1 encouraged UDAQ to be more selective of the surface stations used in DWM. First, the Salt Lake Valley SODAR was discarded due to observations that were incongruent with the Utah Valley SODAR and the Salt Lake City radiosonde. Second, UDAQ selected only the UDAQ operated surface stations. These surface stations are situated in strategic locations across the Wasatch Front. 11 UDAQ stations were used. The phase 2 hypothesis was that

the more selective set of surface stations might produce a wind field with less convergence and resultant vertical motions.

UDAQ found that the phase 2 wind fields produce periods of daytime NW winds that advected pollutants out of the SLV. The nocturnal and morning winds were light and variable and were unable to return the pollutants to the SLV. Most of the observations within the SLV show a trend of daytime up-valley flow and nighttime weak variable flow. In reality, the daytime flown re-circulates within the boundaries of the inversion but in UAM-AERO the continuous grid network cannot retain the flow within the open sided grid cells of the SLV.

Phase 3

Phase 2 results showed transport of PM_{10} out of the SLV. Model evaluation clearly showed a direct link with the observation wind direction and speeds. Phase 3 tested the possibility that a single station located in SLV might produce a wind field that has a more even distribution of wind direction and speeds. In other words, is there a station in SLV that is representative of the valley but where daytime winds and nighttime winds balance each other? If so, developing a wind field from a single station may reduce advection out of the SLV.

Three separate wind fields were developed in phase 3. These wind fields utilized the centrally located and well sited UDAQ Hawthorne and West Valley monitors as well as another well sited but southeasterly located UDAQ Cottonwood station. The results of phase 3 modeling again showed advection out of the SLV and the domain. Stronger daytime NW winds compared to nighttime light and variable winds again forced the loss of PM_{10}.

Phase 4

Phases 1-3 clearly demonstrated the inability of the DWM model to accurately represent the conceptual understanding of inversion conditions. The model deficiencies arise from the model grid-cell structure. The model grid cells are continuous and are unable to “trap” or contain air within an inversion layer. The real wind observations in the SLV do have advective properties that would allow the pollutants to move beyond the boundaries of the SLV under non-inversion conditions. However, under inversion conditions the advective properties of the real wind observations are negated by a forced recirculation of air within the inversion layer by the containing boundaries of the inversion.

In phase 4, a purely idealized flow was created in the attempt to retain pollutants in the SLV. A bimodal wind direction field was created using an afternoon NW wind (330) and an evening, night, and morning SE wind (140). These directions correspond to daytime up-valley flow and nighttime down-valley flow. Wind speeds were chosen so that advection was limited to within the boundaries of the SLV. This wind field, while idealized, fits the conceptual understanding of

inversion conditions. Phase 4 modeling retains PM_{10} within the SLV and UAM-AERO PM_{10} results show excellent agreement with the observations."

Comment # 44. *Ambient Air at Kennecott Mine and Copperton Concentrator – The text on page 31, section IX.A.10.c(1)(c), notes that a PM_{10} NAAQS violation was modeled on a 4 km grid cell that was fully contained on Kennecott's property boundary and therefore the grid cell cannot be considered ambient air. In order to be excluded from consideration as ambient air, public access would need to be precluded by means of a fence or other barrier (such as posting "No Trespassing" signs and security guards). Also any leased property within the Kennecott compound would normally be considered ambient air. The plan language should address these requirements. {Comment made by the EPA; # B20}*

***Response*:** According to officials of KUCC, the mine has a centralized access point for entrance to the Mine operations which is manned by security personnel, 24 hours a day, 7 days a week, 365 days a year. Industrial grade fencing is utilized to prevent unauthorized entry to all Kennecott plants and operations. No trespassing signs are posted on the fences and additional security supervisory patrol is mobile 24 hours a day, 7 days a week to monitor the fence line. Security is aided by the use of closed circuit TV in certain areas to monitor unauthorized activity.

Comment # 45. *Part A, page 36, discusses concentrations greater than 150 μ/m^3 that were predicted in two grid cells on KUCC property. We understand that one cell was in the Bingham Canyon mine pit and the other was just north of the pit. The general public does not have access to this area and thus these two grid cells do not represent ambient air. In addition, one cell was in an emission source and the other adjacent to the source. For these reasons, these were inappropriate locations for receptors in a modeling demonstration. {Comment made by Kennecott}*

Response: UDAQ agrees that the two grid cells do not represent ambient air. In a grid-based model ambient concentration are not estimated at receptors but rather each grid cell centroid reports hourly concentrations. Therefore, all of the cells in the modeling domain have estimated concentration whether they have emissions sources located within them or not.

Comment # 46. *On page 34, section IX.A.10.c(1)(d), paragraph at the top of the page, 2^{nd} and 3^{rd} sentence – These sentences suggest that no new control strategies are needed because the 1991 strategies were sufficient to achieve compliance with the 24-hour and annual standards. This misconstrues the point of the maintenance demonstration. It's only because the area can continue to maintain the standard throughout the maintenance period without new control measures that no new measures are needed, not because the*

area has been meeting the standards with current measures. {Comment made by the EPA; # B21}

***Response*:** Section IX.A.10.c(1)(d) addresses the demonstration of maintenance with respect to the annual standard for PM_{10}. UDAQ acknowledges that the point of the exercise is to demonstrate that a suite of controls is, and will be, sufficient to achieve compliance with the NAAQS. In the case of the annual standard, one follows the other. In other words, because the suite of controls developed to address the 24-hr standard has also proven effective, as assumed, in controlling for the annual standard, we are able to conclude that this assumption was in fact valid. This means that the same assumption may be carried forward into the proposed maintenance plan, which is significant because the UAM-AERO model is built only to assess the 24-hr standard under stagnant wintertime conditions. Since the UAM-AERO analysis models essentially the same suite of controls modeled in the previous CMB analyses, it can therefore be said that this modeling analysis also shows compliance with the annual standard through the year 2017.

Comment # 47. *On page 34, section IX.A.10.c(1)(d), second paragraph at the top of the page – UDAQ should include text stating that you expect the Ogden area to continue to maintain the annual standard and explain the basis for this expectation. {Comment made by the EPA; # B22}*

***Response*:** The existing language will be expanded upon as follows:

"The annual PM_{10} standard was never violated in Ogden City.[In fact the highest single value ever recorded (37.6 ug/m3 in 1991) was only 75% of the standard. Furthermore, as shown in Figure IX.A.39, the general trend in the annual arithmetic mean concentrations observed since 1986 is downward. As explained in section IX.A.10.b(3)(b)(iii), this trend is reflective of permanent and enforceable control measures that were incorporated into the Utah SIP. The continued implementation of these control measures provides a reliable indication that the annual mean concentrations of PM_{10} will remain well within the standard of 50 ug/m3.]"

Comment # 48. *On page 34, section IX.A.10.c(2), last sentence on this page – UDAQ needs to be specific about what bordering region is included in the modeling domain. {Comment made by the EPA; # B23}*

***Response*:** UDAQ will add a cross reference to the graphical picture of the modeling domain, which indicates all county boundaries and nonattainment areas, as follows:

"The modeling domain encompasses all three areas within the state that were designated as nonattainment areas for PM_{10}: Salt Lake County, Utah County, and Ogden City, as well as a bordering region[see Figure IX.A.23]."

Comment # 49. *On page 36, section IX.A.10.c(3), line 16 – The text says, "as determined on a short-term basis." UDAQ needs to be specific about the time-frame; e.g., "as determined on a 24-hour basis." {Comment made by the EPA; # B24}*

***Response*:** UDAQ will provide the following clarification:

"The larger sources within the modeling domain were modeled at their maximum allowable emissions, as determined on a [24-hour][~~short-term~~] basis."

Comment # 50. *On page 37, section IX.A.10.c(3), line 11 – This statement should include a cross-reference to the section of the maintenance plan that describes the maintenance demonstration. {Comment made by the EPA; # B26}*

Response: UDAQ will modify the language on page 37as follows:

"These conditions demonstrate maintenance through 2017[see subsections IX.A.10c.(1) and (2)]."

Comment # 51. *On page 37, section IX.A.10.c(5), line 29 – The text refers to "these emission limitations." UDAQ needs to specify which limits it is referring to. {Comment made by the EPA; # B28}*

***Response*:** UDAQ will modify the language on page 37as follows:

"Since the[~~se~~] emission limitations [discussed in subsection IX.A.10c.(3)]remain federally enforceable and have been sufficient to ensure continued attainment of the PM_{10} NAAQS, there is no need to require any additional control measures to maintain the PM_{10} NAAQS."

Comment # 52. *On page 37, section IX.A.10.c(5), lines 29 – 31: Use of the past tense - "have been sufficient" - is inappropriate. Change to read, "Since the emissions limitations contained in section ___ of the SIP remain federally enforceable and are sufficient to ensure continued attainment of the PM_{10} NAAQS [cross-reference maintenance plan section that describes the maintenance demonstration], there is no need ..." {Comment made by the EPA; # B29}*

***Response*:** UDAQ agrees, and will revise the text to read as follows:

"Since the[~~se~~] emission limitations [discussed in subsection IX.A.10c(3)]remain federally enforceable and, [~~have been~~][as demonstrated in IX.A.10.c(1) above, are]sufficient to ensure continued attainment of the PM_{10} NAAQS, there is no need to require any additional control measures to maintain the PM_{10} NAAQS."

Comment # 53. *On page 43, line 29, reference to IX.A.10.c(1) – Should this be IX.A.10.c(6)? {Comment made by the EPA; # B39}*

***Response*:** UDAQ agrees, and will make the appropriate revision.

Comment # 54. *On page 45, line 8, Section IX.A.10.c(9) – there is a spelling error. {Comment made by the EPA; # B41}*

***Response*:** UDAQ agrees, and will make the appropriate revision.

C. Section IX. Part H – Emission Limits and Operating Practices:

General Comments:

Comment # 55. *(EPA # C general 1) The State is proposing to remove various sources and numerous requirements from existing section IX.H. One overarching concern is that the proposed changes are so extensive that they will render the source-specific provisions unenforceable. We're also concerned that the remaining emissions limits and other requirements may not be consistent with the maintenance demonstration. The prior SIP had far more detailed compliance determining provisions.*

Another very significant and related concern is that the proposed changes, even if they could be found to be consistent with maintenance of the PM_{10} NAAQS, may negatively impact other NAAQS and CAA requirements. Based on interpretations of section 110(l) that EPA has recently expressed in letters, and anticipated guidance that EPA is drafting, we would like to advise the State that before we could approve the proposed changes, the State would need to demonstrate (possibly through modeling) that the changes would not interfere with attainment, maintenance, or any other applicable requirements of the CAA, not just for PM_{10}, but for other pollutants as well, including SO_2, $PM_{2.5}$, and ozone.

The potential impact on PSD increments is also a concern and would have to be addressed in a demonstration of noninterference.

Due to time constraints, we cannot detail every issue related to 110(l) in this letter. Instead, it is essential that the State provide an adequate demonstration for all the proposed changes. {Comment made by the EPA}

> ***Response*****:** a. The emission limitations in Part H are enforceable. R307-305-4 requires all sources with emission limitations in Part H of the SIP to comply with those emission limitations. All of the source-specific requirements that were not needed to meet the RACM requirement have not gone away. They are included in federally-enforceable approval orders for the affected sources. Any changes at those sources have occurred through Utah's NSR process and have required LAER (BACT for non-major sources) and emissions offsets to compensate for any emission increase. All of the emission limitations in the SIP and the approval orders are subject to Title V permitting requirements for affected sources, further ensuring the enforceability of the underlying requirements.
>
> b. The emission limits are consistent with the modeling demonstration. The larger sources were modeled based on their maximum emission rates because these sources are large enough to individually affect the attainment demonstration. If the individual source operated at the maximum level it could affect the NAAQS. The emission limits for these large sources are included in Part H of the SIP. The projection inventories for these sources may be found at section (3)(b)(iii) of the TSD (see also the response to comment #99 and #105).

The smaller sources were modeled based on their actual emission rate because they contribute more to the background level of PM_{10} rather than affecting the attainment demonstration as a single source. If a small source was operating at its maximum level it would not significantly affect PM_{10} levels and most likely another source would be operating at a reduced level to counteract the impact on background levels in the attainment demonstration.

c. It is difficult to respond to a comment regarding EPA guidance that has not yet been released. UDAQ staff has not developed this maintenance plan in a vacuum without consideration of the effect of this plan on other pollutants. UDAQ is currently working on a revised ozone maintenance plan for ozone (due in April 2007) to demonstrate that Salt Lake and Davis Counties will continue to meet the 8-hour ozone NAAQS. Current ozone monitoring data show on-going improvement in ozone levels in the area. Preliminary inventory numbers for that plan show that NO_x emissions in the maintenance area will be declining significantly over the next 10 years as more vehicles meet the Tier 2 emissions standards. The State of Utah submitted an SO_2 maintenance plan in January of this year that was developed concurrently with the PM_{10} maintenance plan and that showed maintenance of the standard for the next 10 years. Current monitored values of SO_2 are less than a 10^{th} of the standard. Utah also just submitted a regional haze SIP in December 2003 that addressed visibility-impairing pollutants in the state through the year 2018.

The pollutant that is of most concern to UDAQ at this point in time is $PM_{2.5}$. The good news is that the control strategies in the both the 1981 TSP SIP for the Wasatch Front, and the 1992 PM_{10} SIP for Salt Lake and Utah Counties have been focused on the smaller sized particles, and have therefore significantly reduced $PM_{2.5}$ levels over the last 30 years. The PM_{10} maintenance plan shows continued improvement in the near term as more vehicles meet the Tier 2 emissions standards. Because so much of PM_{10} during wintertime temperature inversions is due to fine particles UDAQ anticipates that improvement will be seen in $PM_{2.5}$ levels as well. Now that the PM_{10} maintenance plan has been completed, UDAQ can focus the State's technical resources on better understanding and addressing $PM_{2.5}$.

All of these related SIPS work together to show that the overall pollution control strategy in Utah is working. It is not necessary to do a separate analysis of how each plan affects the others because this work is proceeding concurrently and UDAQ deliberately focuses on emission reduction strategies that will meet multiple air quality goals.

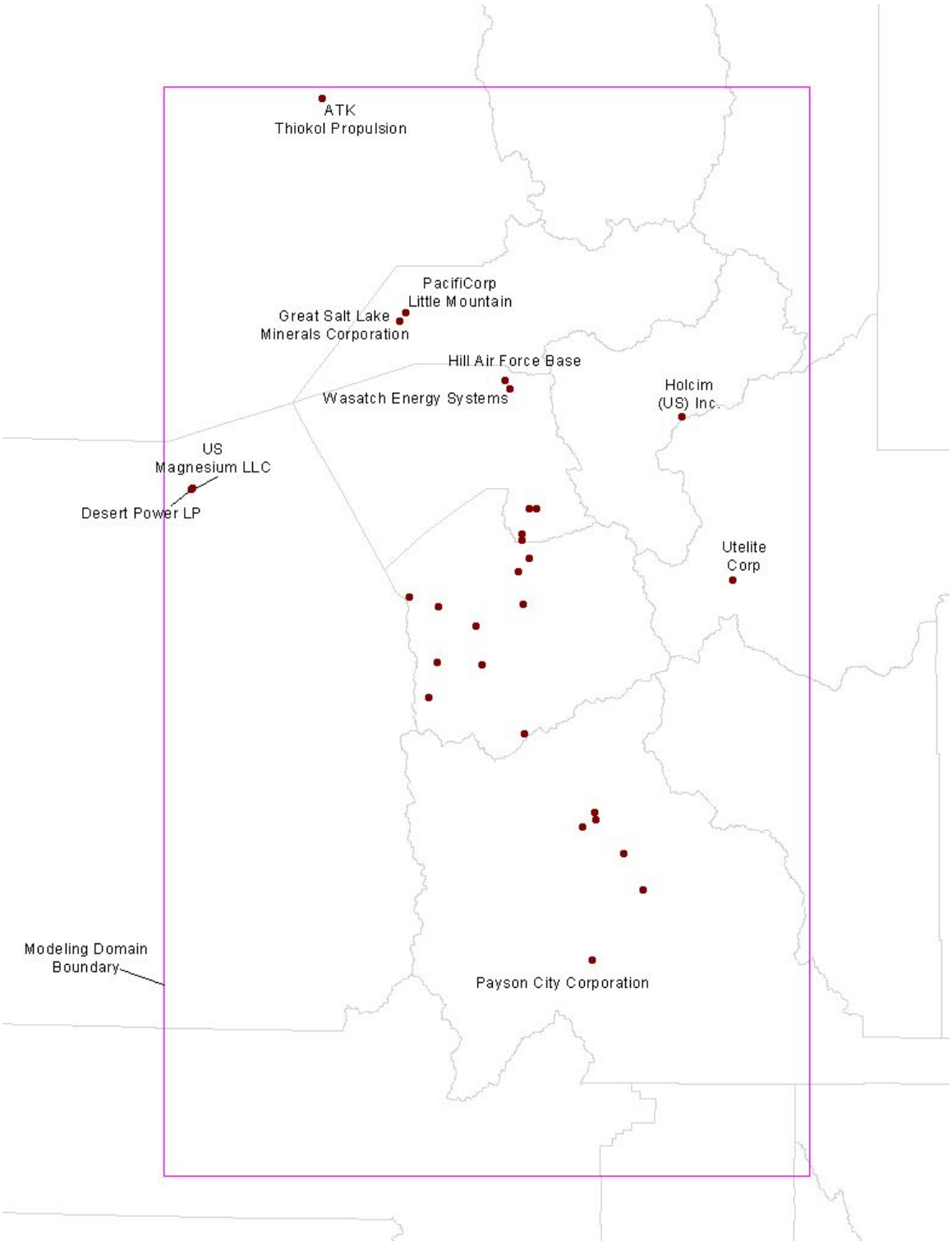
e. In regards to PSD, the total emissions of PM_{10} and PM_{10} precursors have gone down significantly since 1990 due to the PM_{10} SIPs, ozone maintenance plan, Tier 1 and Tier 2 emission standards for automobiles, federal acid rain regulations, and on-going reductions due to Utah's effective NSR program. UDAQ has not done a formal increment analysis, but it is clear that increment has been expanded in the

area since 1990 for NO_x and since 1979 for SO_2 and PM_{10}. The proposed revision to the major source baseline date (see comment #128 for a more detailed discussion) is intended to make the PM_{10} and SO_2 increments a useful tool to prevent air quality from slowly degrading in the area to the level of the NAAQS.

Comment # 56. *The State of Utah prepared a projection year inventory for large point sources, as defined by an agreement between the State and EPA (100 tons per year of PM_{10}, 200 tpy of NOx, or 250 tpy of SO_2). The maintenance plan (at page 36, section IX.A.10.c(3), lines 17 and 18) indicates that emission limits in Section IX, Part H were only included for large point sources that are located in one of the PM_{10} nonattainment areas or that currently have limits in Section IX, Part H. The basis for not including limits for other large sources listed in the projected inventory does not appear to be technically defensible. As a starting point, we would expect large sources included in the modeling domain to be given emissions limits in the SIP. Any exclusion must be based on valid technical grounds. This is also relevant to the commitments made by UDAQ in its letter to the EPA dated April 18, 2002. {Comment made by the EPA; # B25, includes EPA comments # D1 and I3}*

***Response*:** The identification of a subset of "large sources" for inclusion in Part H is less arbitrary than it may seem. It is important to recognize that the demonstration of maintenance was based on the UAM-AERO model which is regional in scale. Figure IX.A.23 of the proposed Maintenance Plan shows the domain that was modeled, and shows within that domain the outline of the current nonattainment areas.

The figure below is provided to show the location of the "large sources" within the domain.



During the course of Plan development, various sensitivity runs were made to ascertain the effects of adjustments that could be made to the projection year inventories. One of the questions that was addressed during the course of this

work was the spacial sensitivity of the receptors to adjustments made to the inventories of the "large sources."

The inventory adjustment used to address this question involved a choice of two possible sets of projections: 1) the "PTE" approach that was ultimately used and documented as part of the proposal, and 2) the "traditional method" of projecting actual emissions that was employed at the "small sources" throughout the domain. As a general rule, the PTE method results in projection year inventories that are about 2 times as large as those calculated in the traditional way.

Using this difference in approach, two sensitivity runs were made with the model. First, a subset of six large sources located nearest to the grid cells (near North Salt Lake) that were predicting the highest concentrations were "discounted" by switching from the PTE approach to the traditional approach. This model run yielded predicted concentrations that were 9% lower than benchmark concentration.

A second run was made, wherein a subset of nine large sources located in the outlying regions of the modeling domain were similarly discounted. This time there was no difference in the maximum concentrations predicted by the model. It could therefore be concluded that the impact of large sources within the model is greatly limited in space.

The list of (nine) sources that was discounted in the second modeling run is identical to the list of sources that was excluded from Part H, with only two exceptions. Payson City Power was discounted in the sensitivity run, but has been included in Part H because it resides in Utah County (a nonattainment area). Desert Power L.P., located right by U.S. Magnesium (which is excluded from Part H), was also excluded from Part H. Emissions from this source were not discounted in the sensitivity run, though based on the criteria they should have been.

The difference in projected emission rates for these sources clearly has no effect on the concentrations predicted by the model in the Salt Lake nonattainment area; and by extension has no effect in the Utah County nonattainment area as well, given that these nine sources are all well north of the county line.

It therefore cannot be said that the Maintenance Plan has relied upon the emission rates modeled therein to demonstrate continued compliance with the PM_{10} standard. It follows then that emission limits are not necessary at these sources to legally support the assumptions used to make the assertion that the NAAQS will be maintained in these areas.

Nevertheless, one might still wonder about the validity of these claims with respect to the Ogden City nonattainment area. Looking back at these same sensitivity runs, the difference in predicted concentrations at the Ogden City

monitor was less than one percent and less than one microgram per cubic meter. Hence, the same conclusion is reached here as well.

As further support for this notion, a report commissioned by UDAQ in the SIP development stage for Ogden titled "Source Apportionment Analysis for the Ogden PM_{10} Nonattainment Area (SECOR, July 1998) concluded the following: "The filter analysis data obtained from the Ogden City monitor was sufficient to resolve PM_{10} source contributions from primary motor vehicle exhaust, primary vehicle brakewear and re-entrained roadsalt, woodburning smoke, secondary sulfate and secondary nitrate. In addition these measurements were sufficient to determine that industrial sources were not major contributors to PM_{10} measured at the monitor." The evaluation was done using the Chemical Mass Balance model (CMB 7.0). Speaking specifically about industrial sources, the report says "As indicated in the source profile section discussed previously there were source profiles available for all of the major industries including steel mill, copper smelter , refinery, asphalt, cement, and grain processing to name a few. Repeated attempts were made to achieve a fit from these sources by eliminating other collinear sources, changing fitting species, or other CMB modeling tuning methods. The CMB model was not able to resolve any of the major industrial sources which are located along the Wasatch front as contributors to the exceedances at the Ogden monitor."

In conclusion, it is worth noting that SIP limits at these sources were never necessary to bring any nonattainment area for PM_{10} back into compliance with the NAAQS, and it cannot be shown that they will be necessary now to insure maintenance of the PM_{10} standards throughout the period addressed by the Maintenance Plan.

All "large sources" within the modeling domain were modeled in a very conservative way (see the "jump" in Point Source emissions between the episode year 2002 and the first projection year 2005 shown in Table IX.A.37 on page 36) so that the modeling result would itself have some measure of conservatism built in to it. This however is not reason alone to require that emission limits at those sources be included in the SIP.

Furthermore, the nine sources excluded from Part H are, and will continue to be, regulated by Approval Orders, state and federal regulations, and in some cases Part 70 permits. This is sufficient to meet all requirements of the Clean Air Act.

Comment # 57. *EPA requests that UDAQ submit a redline/strikeout of the final version of Section IX. Part H, to show exactly where UDAQ has made changes in Section IX. Part H as compared to what is currently contained in the federally approved SIP section 9.A, Appendix A, including any changes to the source specific particulate emission limitations. {Comment made by the EPA; # C general 2}*

***Response*:** We will work with EPA to accomplish what they need. The software UDAQ has available doesn't create a readable comparison document. This is aggravated by the fact that the original Part H is a WordPerfect document; our version of Word does not deal well with WordPerfect documents that include a great deal of formatting, as Part H does.

SIP Section IX.H.1 – General Requirements:

Source Testing:

Comment # 58. *On page 1, section IX.H.1.a. – This section says "back half condensibles are required for inventory purposes." This language is currently approved into the existing SIP. However, UDAQ has never implemented this requirement. The SIP should also indicate that back half emissions must be considered in permit impact and applicability analyses and other applicability analyses under the SIP and CAA. This is also relevant to the commitments made by UDAQ in its letter to the EPA dated April 18, 2002. If the State believes that back-half condensibles and Method 202 testing will not have a substantial impact on the countywide emission inventories or attainment/maintenance demonstrations, the State should explain why not. {Comment made by the EPA; # C1, includes EPA comment # I8}*

***Response*:** The language in existing section IX.H requires back-half condensibles to be measured for inventory purposes using method 202 or other method specified by the Executive Secretary. It is not true that UDAQ has never implemented this requirement. To the contrary, UDAQ has been requiring the back-half test results ever since the PM_{10} SIP was promulgated. This dates back to before method 202 was even approved by EPA.

Concerning permitting actions, UDAQ currently requires back-half testing for compliance purposes on all coal fired power facilities as well as gas fired turbines that meet PSD applicability. UDAQ also routinely considers back-half emissions in determining applicability to various program elements (e.g. major source determination).

Concerning the commitments made by UDAQ in its letter to the EPA dated April 18, 2002, "Backhalf emissions measuring for PM_{10} emissions limit stack testing"; the requirement to test for back-half condensibles for inventory purposes will remain in the maintenance plan. However, using the back-half catch for compliance purposes will not become part of this maintenance plan. UDAQ has examined that possibility but concluded it would not be prudent to do so for the following reasons:

- Although the "back-half catch" is incorporated into many of the emission factors included in AP-42, and consequently in the inventories used in the modeling demonstration, there are still many factors that do not consider

this fraction. Consequently, it is used inconsistently throughout the inventory.

- Similarly, the many emission limits that were established in Part H are inconsistent with respect to their inclusion of back-half emissions. To generally require the subsequent method of compliance determination to count the back-half catch against the established emission limit would unfairly penalize some of the sources.

- These are "PM_{10}" emissions that aren't present in the stack under stack conditions.

- It is widely understood that many of the back-half condensable emissions measured by method 202 are either gaseous SO_2 or VOC compounds. In many instances there are concurrent emission limits on SO_2 or VOC, and this would constitute double-counting.

In summary, UDAQ is aware of back-half emissions, and will continue to consider them in forthcoming permit actions. Should the need arise to promulgate a $PM_{2.5}$ SIP, it may be appropriate to consider these emissions for planning purposes at that time.

Comment # 59. *On page 2, section IX.H.1.a, the last sentence indicates that the production rate during compliance testing shall be no less than 90% of the maximum production achieved during the previous three years. This provision should say 90% of the maximum production achieved in the previous three years or 90% of the design capacity, whichever is greater, or the State should explain why the current provision is adequate. {Comment made by the EPA; # C2}*

Response**:** UDAQ believes that the current provision is adequate, and is reflective of normal operating conditions. The provision is consistent with the Utah Air Quality Rules and consistent with the provision in the PM_{10} SIP. The same provision was re-approved into the Utah County PM_{10} SIP, by EPA, as recently as 2002.

Opacity:

Comment # 60. *On page 2, section IX.H.1.g, the last sentence indicates that for intermittent sources the requirement to make observations at 15-second intervals over a six minute period shall not apply. The State should clarify what will apply. This issue appears wherever the SIP or regulations specify opacity limits that might apply to intermittent sources. The State should clarify these other provisions as well. {Comment made by the EPA; # C3}*

***Response*:** Many commentors expressed concern with the proposal to refine the method used to determine opacity from intermittent or moving sources. As a result, UDAQ will revert back to the existing language found in R307-201-3(9) wherever it applies. As presently construed, all other aspects of method 9 would apply to this method.

Comment # 61. *There is a small revision regarding opacity observations. The current language (IX.H2.a.C): "For intermittent sources and mobile source emissions opacity observations shall be conducted using a modified method 9 (not all 24 readings for a six-minute period required." The new language is found in IX.H.1.g: "For intermittent sources and mobile sources opacity observations shall be conducted using procedures similar to Method 9, but the requirement for observations to be made at 15-second intervals over a six minute period shall not apply and any time interval with no visible emissions shall not be included." The new wording may be somewhat less vague than the old, but it does not remedy the serious objections KUCC has repeatedly expressed concerning this requirement. In summary, any modified form of Method 9 (used as an enforcement standard for intermittent or mobile sources, as opposed to a trigger for further action, is not a verifiable method, is not an approved method, and imposes a standard more restrictive than corresponding federal regulations and, according to Utah Code 19-2-106, cannot be maintained without a written finding after public comment and hearing and based on evidence in the record, that corresponding federal regulations are not adequate to protect public health and the environment of the state. Also, it appears that sources now addressed in Part H do not include intermittent or mobile sources, so that there is no need to address opacity observations for them. Therefore, the second sentence of IX.H.1.g should be deleted. {Comment made by Kennecott}*

***Response*:** As explained in the response to comment # 60, UDAQ will revert back to the existing language wherever it appears. See also the response to comment # 115 for further discussion concerning the proposed rule revisions.

Comment # 62. *UIENC and others have raised serious issues over the years over similar methods for assessing opacity from mobile and intermittent sources. This proposal is not specific as to how the modified Method 9 test would be conducted, whether a specific number of readings must be taken and at what intervals, nor whether certification would be required for observers. EPA has never completed its 1993 proposal for opacity observations from intermittent sources; and that raises questions as to whether UDAQ can, in view of 19-2-106, issue a rule that is more stringent than the federal requirement. {Comment made by UIENC}*

***Response*:** As explained in the response to comment # 60, UDAQ will revert back to the existing language wherever it appears. See also the response to comment # 115 for further discussion concerning the proposed rule revisions.

Fugitive Dust:

Comment # 63. *Within the existing federally-approved SIP section IX.H.1.a.H there is a control measure addressing the treatment of unpaved roads in operational areas which are used by mobile equipment. This language is missing from the proposed SIP section IX.H.1. If UDAQ intends to remove this control measure from the existing SIP, it will need to correct the statement that Utah will continue to implement all control measures contained in the SIP. Furthermore, Utah will need to supply a demonstration that removal of the measure will not interfere with any requirement of the CAA, including requirements for attainment and maintenance of other NAAQS (see section 110(l) of the CAA), and will need to list the control measures within the contingency plan under section IX.A.10.c.(10) of the maintenance plan (see section 175A(d) of the CAA). {Comment made by the EPA; # C general 3}*

***Response*:** Sources of fugitive dust located in the Maintenance area are required to have a fugitive dust plan, see R307-309-6. UDAQ has found that fugitive dust plans work better than this provision. Fugitive dust plans are developed for each source. Thus, the fugitive dust plans can be tailored to address a source's unique issues, and thereby controlling fugitive dust better than one arbitrary requirement. For example, the water application rate to control fugitive dust for an unpaved operational area located in St. George will be different from one located in Heber.

However, to ensure that there is a minimum dust control requirement in the SIP, UDAQ will include the following condition in the SIP at Section IX.H.1.h that requires sources to control fugitive dust on all unpaved operational areas and keep records of the treatments used to control fugitive dust.

"h. All unpaved roads and other unpaved operational areas that are used by mobile equipment shall be water sprayed and/or chemically treated to control fugitive dust. Treatment shall be of sufficient frequency and quantity to maintain the surface material in a damp or moist condition, unless the ambient temperature is below freezing. The opacity shall not exceed 20% during all times. If chemical treatment other than magnesium chloride is to be used, the plan must be approved by the executive secretary. Records of water and/or chemical treatment shall be kept for all periods when the plant is in operation. The records shall include the following items:

A. Date;
B. Number of treatments made, dilution ratio, and quantity;
C. Rainfall received, if any, and approximate amount; and
D. Time of day treatments were made.

Records of treatment shall be made available to the executive secretary upon request and shall include a period of two years ending with the date of the request."

Refineries; General Requirements:

Comment # 64. *On page 2, section IX.H.1.h(1)(a) says that SRU efficiency shall be estimated and reported a minimum of once per year. We don't believe this is adequate to protect the NAAQS. {Comment made by the EPA; # C5}*

> ***Response*:** The annual estimation of SRU efficiency was not required in the current PM_{10} SIP. It has been added to several of the refinery permits over time. The inclusion of this requirement is an inclusion of the permit condition. Further, the 95% is the design requirement for the sulfur recovery units at the refineries. The emission limit for each SRU was determined by taking 5% of the maximum sulfur input to each unit. The emission limits control what is emitted to the air shed. As long as those limits are not exceeded, the NAAQS are protected.

Comment # 65. *On page 2, section IX.H.1.h.(1)(a) – This section indicates that the relevant requirement (95% sulfur removal efficiency) applies "except for startup, shutdown, or malfunction of the SRU." This is not acceptable. EPA cannot approve provisions into SIPs that provide automatic exemptions from emission limits due to startup, shutdown or malfunction.*

This also applies to: 1) proposed section IX.H.1.h.(1)(b): which indicates that the relevant requirement (reducing the H_2S content of the refinery plant gas to 0.10 grain/dscf (160 ppm) or less) applies "except for startup, shutdown, or malfunction of the amine plant" {Comment made by the EPA; # C6, includes EPA comments # C7 and C12}

> ***Response*:** DAQ took this condition from EPA Consent Decrees. In Consent Decrees with the two largest refineries, startup/shutdown/malfunctions are exempt from requirement for 95% efficiency. 40 CFR 60 Subpart A also allows such an exemption from Subpart J, Standards of Performance for Petroleum Refineries. 40 CFR 63.6(h)(1) also allows this exemption.
>
> The Consent Decree between BP-Amoco and EPA, dated 8/2/02 (http://www.usdoj.gov/enrd/bpcd.htm), requires that "BP shall comply with a 95% recovery efficiency requirement for all periods of operation except during periods of startup, shutdown, or malfunction of the SRP." [clause 21.B.iv.a]. This Consent Decree was signed by "STEVEN A. HERMAN, Assistant Administrator for Enforcement and Compliance Assurance, United States Environmental Protection Agency, Washington, D.C. 20460" – this is the same Steven Herman responsible for the 1999 guidance "State Implementation Plans: Policy Regarding Excess Emissions During Malfunctions, Startup, and Shutdown." Since the Consent Decree is dated more recently, and federal regulations still allow the situation discussed here, UDAQ sees no conflict with federal guidance.

The recently-drafted (2003) Consent Decree with Chevron requires:

> 16. Compliance with Specific SO_2 Emission Limits (El Segundo, Hawaii, Pascagoula, and Salt Lake City FCCUs):
>
> "e: SO_2 emissions during periods of Startup, Shutdown, or Malfunction shall not be used in determining compliance with the emission limit of 50 ppmvd SO_2 @ 0% 0_2 on a 7 day rolling average basis, provided that during such periods Chevron implements good air pollution control practices to minimize SO_2 emissions."
>
> "48. Compliance with Emissions Limits at the Salt Lake City SRP.
> a. With respect to the Salt Lake City SRP, Chevron shall comply with a 95% sulfur recovery efficiency requirement for all periods of operation except during periods of startup, shutdown or Malfunction of the SRP."
>
> (http://www.epa.gov/compliance/resources/decrees/civil/caa/chevron-cd.pdf)

40 CFR 60 Subpart A at 60.8(c) states "Operations during periods of startup, shutdown, and malfunction shall not constitute representative conditions for the purpose of a performance test nor shall emissions in excess of the level of the applicable emission limit during periods of startup, shutdown, and malfunction be considered a violation of the applicable emission limit unless otherwise specified in the applicable standard**."** Subpart J does not "otherwise specify."

40 CFR 63 at 63.6(h)(1) states:

> "(h) Compliance with opacity and visible emission standards—
>
> (1) Applicability. The opacity and visible emission standards set forth in this part must apply at all times except during periods of startup, shutdown, and malfunction, and as otherwise specified in an applicable subpart. If a startup, shutdown, or malfunction of one portion of an affected source does not affect the ability of particular emission points within other portions of the affected source to comply with the opacity and visible emission standards set forth in this part, then that emission point shall still be required to comply with the opacity and visible emission standards and other applicable requirements."

See also, "Proposed Rule Revisions:" (Excess Emissions), Comments # 113 and 114 for further discussion.

Comment # 66. *IX.H.1.h.(1)(e): opacity at catalytic cracking units – This section indicates that the opacity for catalytic cracking units shall not exceed 20% if Method 9 is the compliance determination method, and 30% if a continuous opacity monitoring*

system (COMS) is the compliance determination method. The requirement regarding the 30% opacity and COMS is new and was not in the original 1991 PM_{10} SIP. We have two concerns with this provision:

First, before we could approve a relaxation in the opacity limit to 30%, the State would need to demonstrate that the relaxation would not interfere with any applicable requirement concerning attainment and reasonable progress (as defined in CAA section 171) or any other applicable requirement of the Act, including maintenance. See CAA section 110(l).

Second, as a general matter, the opacity limits should not vary based on the method used to determine compliance. We do not accept the proposition that a switch to COMS renders an opacity limit more stringent. {Comment made by the EPA; # C10}

> *Response*: DAQ was attempting to be consistent with federal standards and to avoid a credible-evidence issue with the two standards. However, the data required to justify a relaxation of the opacity limit to 30% is not readily obtainable in the time allowed. DAQ will remove the 30% with COMS option, and return to the current 20% opacity with Method 9 as the compliance method in IX.H.1.h.(1)(e). If the required data become available, DAQ will readdress the issue at that time. The 20% opacity is being clarified to show that all refineries must meet the same opacity limit, regardless of facilities or installations between the regenerator and the exit point.
>
> (e) not exceed 20% opacity at any process flare. Opacity at catalytic cracking units[, including those with ESP facilities,] shall not exceed 20%, with compliance to be determined in accordance with Subsection (g) above. [~~Alternatively, a Continuous Opacity Monitoring System (COMS) may be used, in which case the limit shall be 30% in accordance with 40 CFR 63, Subpart UUU.~~]

Comment # 67. *IX.H.1.h.(2): Compliance demonstrations for refinery wide emission limits – Subsection IX.H.1.h.(2)(a) says "Compliance with the maximum daily (24-hr) plantwide emission limitations for PM_{10}, SO2 and NOx shall be determined by adding the calculated emission estimates for all fuel burning process equipment to those from any stack-tested or CEM-measured source components." This language is not specific enough to be enforceable as a practical matter. For the fuel burning process equipment, standard language from current Approval Orders for the refineries is much more specific and should be used in this section.*

For the fuel burning process equipment, since this language is standardized for all the refineries, we recommend it be included in the General Requirements at IX.H.1, rather than under each refinery in IX.H.2 as was done in the original PM_{10} SIP. This will avoid redundancy. Specifically, this has been proposed as <u>"multiplying the quantity of each fuel burned at the affected units by the appropriate emission factor for that fuel and</u>

summing the results." This is not specific enough to be enforceable. It should be made clear how the quantity of fuel combusted is to be determined and how the appropriate emission factor is to be determined. This comment applies to the following locations within the proposed section IX.H.2:

Chevron:

plantwide PM_{10} limit, Subsection IX.H.2.c.(1)
plantwide SO_2 limit, Subsection IX.H.2.c.(2)(a), also the phrase "and summing the results for the affected units" should be added.
plantwide NO_X limit, Subsection IX.H.2.c.(3)(a) also the phrase "and summing the results for the affected units" should be added.

Flying J/Big West Oil Co.

plantwide PM_{10} limit, Subsection IX.H.2.d.(1), also the phrase "and summing the results for the affected units" should be added.
plantwide SO_2 limit, Subsection IX.H.2.d.(2)(a)(ii), also the phrase "and summing the results for the affected units" should be added.
plantwide NO_X limit, Subsection IX.H.2.d.(3)(a)(ii), also there is no statement about how emissions from the fuel burning process equipment are to be determined.

Holly:

plantwide PM_{10} limit, Subsection IX.H.2.h.(1), also the phrase "and summing the results for the affected units" should be added.
plantwide SO_2 limit, Subsection IX.H.2.h.(2), also the phrase "and summing the results for the affected units" should be added.
plantwide NO_X limit, Subsection IX.H.2.h.(3)(a), also the phrase "and summing the results for the affected units" should be added.

Tesoro:

plantwide PM_{10} limit, Subsection IX.H.2.q.(1)
plantwide SO_2 limit, Subsection IX.H.2.q.(2)(a)(ii), also the phrase "and summing the results" should be added.
plantwide NO_X limit, Subsection IX.H.2.q.(3)(a), also the language should be more consistent with the others.

{Comment made by the EPA; # C11}

***Response*:** DAQ proposes to include additional compliance information in IX.H.1.h.2(a) regarding emission factors as shown below. Also, the source-specific sections cited in the above EPA comments have been edited to make the compliance demonstrations more consistent with each other and EPA's proposed changes.

(2) Compliance Demonstrations.

(a) Compliance with the maximum daily (24-hr) plant-wide emission limitations for PM_{10}, SO_2, and NO_X shall be determined by adding the calculated emission estimates for all fuel burning process equipment to those from any stack-tested or CEM-measured source components. [NO_x and PM_{10} emission factors shall come from AP-42 or test data. For SOx, the emission factors are:

Natural gas: EF = 0.60 lb/MMscf
Propane: EF = 0.60 lb/MMscf
Plant gas: the emission factor shall be calculated from the H_2S measurement required in IX.H.1.h(1)(b). The emission factor, where appropriate, shall be calculated as follows:

EF (lb SO_2/MMscf gas) = (24 hr avg. ppmv H_2S)/10^6 * (64 lb SO_2/lb mole) * (10^6 scf/MMscf) /(379 scf / lb mole)

Fuel oils (when permitted): The emission factor shall be calculated based on the weight percent of sulfur, as determined by ASTM Method D-4294-89 or approved equivalent, and the density of the fuel oil, as follows:

EF (lb SO_2/k gal) = density (lb/gal) * (1000 gal/k gal) * wt.% S/100 * (64 lb SO_2/32 lb S)

Where mixtures of fuel are used in an affected unit, the above factors shall be weighted according to the use of each fuel.]

SRU Turnaround and Upset Flaring Emissions:

Comment # 68. *Sections IX.H.1.h.(2)(e) and (f) – These sections say that the emissions increase (above normal operations) experienced during SRU routine turnarounds, as well as emissions due to upset flaring, shall not be included in the daily (24-hr) or annual compliance demonstrations. UDAQ needs to address the refinery SRU and flaring issue in the Utah SIP. We partially approved and partially disapproved the Billings/Laurel SO_2 SIP for several reasons, including the fact that the flare emissions were considered in the attainment demonstration but the SIP did not establish enforceable emission limits for these emission points. This is also relevant to the commitments made by UDAQ in its letter to the EPA dated April 18, 2002. {Comment made by the EPA; # C6; includes EPA comments # C7, C12 and I5}*

***Response*:** Concerning SRU maintenance downtime, Part IX.H of the proposed SIP does not excuse any emissions increase above normal operations at the refineries during routine turnaround maintenance of the sulfur recovery units, unless such maintenance is scheduled during the period of April 1 through October 31. These summer months lack the cold temperatures and other atmospheric conditions necessary to drive secondary aerosol formation from PM_{10}

precursors such as SO_2. This seasonal approach is consistent with that of the approved SIP, but the proposed SIP revision has essentially added the month of March to the "winter PM_{10} season."

Concerning flares: UDAQ has established enforceable limits regarding flares. Under recent consent decrees with a majority of the refineries in the PM_{10} Maintenance Area, EPA has negotiated federally enforceable language requiring injunctive relief for flares at Salt Lake's refineries. Requirements that have been inserted into the federally enforceable permits include applying the requirements of 40 CFR Part 60, Subpart J, *Standards Performance at Petroleum Refineries* for flaring devices and the requirements to investigate acid gas and tail gas flaring incidents, perform a root cause analysis of the incident and take corrective actions to minimize the likelihood of reoccurrence. The State's position is that the injunctive relief in the consent decrees is adequate to address emissions from flares at the Salt Lake refineries.

Comment # 69. *Flares at refineries should not be exempt from site-wide caps and should be used only for their permitted uses: true emergencies. Flares are a significant episodic source of toxic emissions, particularly when wind prevents complete combustion. Each flare should have a flow meter at the inlet and the waste gas composition should be recorded. Accurate inventories of sulfur content in flare fed streams should be collected and critically analyzed; each flare should be video-monitored and the images preserved. Ambient monitoring should be conducted to determine the effects of wind speed and direction on combustion efficiency and to provide realistic emission factors to calculate the emissions of particulate matter and hydrocarbons. These projects could be undertaken as Supplemental Environmental Projects as settlements for Notices of Violation as they occur. All information should be available to the public, as is done by the Bay Area Air Quality Management District in California; see their web site at* http://www/baaqmd.gov. *{Comment made by Wasatch Clean Air Coalition}*

***Response*:** See response to comment # 68.

Comment # 70. *The refineries should install some type of monitoring devices at the flares, because they emit large amounts of measured and unmeasured SO_2, NO_x, VOC and particulates annually. Also, their combustion efficiency can be much lower, in certain conditions such as high wind speeds, than their historically assumed 98% destruction efficiency. Areas requiring flare monitoring for other pollutants include Billings, MT; California; and Houston, TX. The Billings SO_2 SIP requires use of continuous emissions monitoring on refinery flares to measure H_2S concentrations. Air quality management districts in California require flow monitors and video monitors. Texas requires continuous flow monitoring systems at flares to measure and record emissions of highly reactive volatile organic compounds (HRVOCs). Monitoring particulates would require different monitoring devices by the above examples provide a*

precedent for monitoring flare emissions. {Comment made by Environmental Defense and Utah Chapter, Sierra Club}

***Response*:** See response to comment # 68.

Clarifications & Corrections:

Comment # 71. *On page 2, section IX.H.1.h(1) – refers to the "PM_{10} nonattainment area." This should be revised to "PM_{10} maintenance area." {Comment made by the EPA; # C4}*

***Response*:** UDAQ will clarify the statement to cover either situation. The sentence at IX.H.1.h.(1) will be revised to read "All petroleum refineries in or affecting the PM_{10} nonattainment[/maintenance] area shall…"

Comment # 72. *IX.H.1.h.(1)(b): H_2S content in plant gas at petroleum refineries – The term "plant gas" needs to be defined in the SIP. In section IX.H.1.h.(1)(b), the term apparently means only the fuel gas at refineries which is run through the amine unit for H_2S removal. However, in the Approval Orders for the refineries (example: condition 15.A of the April 8, 2005 AO for Chevron), the term could be construed to mean not only the fuel gas which requires H_2S removal at the refinery, but also pipeline quality natural gas supplied from outside the refinery.*

Also, the statement that "Compliance shall be based on a rolling average of 24 hours or less" needs to be reworded to make it clear what specific averaging time shall be used. The expression "24 hours or less" is not specific. {Comment made by the EPA; # C8}

***Response*:** "Plant gas" as used in this document is intended to have the same meaning as "fuel gas," as defined in 40 CFR Subpart J at 60.101(d): "Fuel gas means any gas which is generated at a petroleum refinery and which is combusted. Fuel gas also includes natural gas when the natural gas is combined and combusted in any proportion with a gas generated at a refinery. Fuel gas does not include gases generated by catalytic cracking unit catalyst regenerators and fluid coking burners."

The terms "plant gas," "common refinery fuel gas" and "fuel gas" were used interchangeably in the current PM_{10} SIP and approval orders. Refinery representatives in the noted meeting agreed on use of the Subpart J language.

The averaging time for the H_2S limit was stated as "24 hours or less" to allow for use of records of the 3-hr averaging time required in Subpart J at 60.105(e)(3). Refinery representatives agreed to deleting the phrase "or less," in order to maintain consistency with the usual PM_{10} averaging period.

The language in condition IX.H.1.h.(1)(b) will be changed to read as follows:

> "(b) reduce the H_2S content of the refinery plant gas to 0.10 grain/dscf (160 ppm) or less, except during startup, shutdown, or malfunction of the amine plant. Compliance shall be based on a rolling average of 24 hours[~~or less~~]. The owner/operator shall install and maintain a continuous monitoring system for monitoring the H_2S content of the refinery plant gas and a continuous recorder to record the H_2S in the plant fuel gas. The monitoring system shall comply with all applicable sections of R307-170 and 40 CFR 60, Appendix B, Specification 7.[As used herein, refinery "plant gas" shall have the meaning of "fuel gas" as defined in 40 CFR 60, Subpart J, and may be used interchangeably.]
>
> If the monitor reading is not available, the refinery plant gas shall be sampled as closely to the monitor location as safely possible at least once each day. The sample shall be analyzed for sulfur content by use of a chemical detector tube capable of reading the required concentration (e.g., Drager Hydrogen Sulfide No. 1/D or equivalent).
>
> For natural gas, compliance is assumed while the fuel comes from a public utility."

Comment # 73. *IX.H.1.h.(1)(c): The State has inserted the phrase "in external combustion equipment." We need to understand the basis for this change to determine whether it is appropriate. {Comment made by the EPA; # C9}*

> ***Response*****:** In IX.H.1.h(1)(c), the text states that refineries "may no longer burn fuel oil in external combustion devices…." The point sources affected by this restriction are intended to be the fuel gas combustion units, such as boilers and furnaces, that combust at atmospheric pressure. There was concern from the refineries that the prohibition as stated in the current SIP ("no longer burn fuel oil" without clarification) did not allow for use of diesel engines used in the refineries. All cited concerns were internal combustion units, so the phrase "in external combustion equipment" was added to the intended restriction.
>
> "External combustion" shall be defined in IX.H.1.h.1(c) to incorporate the wording of R307-413-4(1).
>
> (c) no longer burn fuel oil in external combustion equipment, except during periods of natural gas curtailment or as specified in IX.H.2. [External combustion shall mean combustion that takes place at no greater pressure than one inch of mercury above ambient pressure.]

Comment # 74. *IX.H.1.h.(3)(b) – This section should refer back to IX.H.1.h.(2) (e), not (f). {Comment made by the EPA; # C13}*

> ***Response*:** UDAQ agrees, and will make the appropriate correction to condition IX.H.1.h(3)(b).

SIP Section IX.H.2. – Source Specific Particulate Emission Limitations:

IX.H.2.a. Bountiful City Power

Comment # 75a. *Subsection IX.H.2.a.(1)(a) contains a NOx emission limit of 0.0721 tons/day for a turbine (equivalent to 6.0 lb/hr). The original 1991 PM_{10} SIP has limits for a 9750-hp engine of 79.5 lb/hr and 3.70 grams/hp-hr (13 times more emissions than the turbine). This is engine #8, which is listed in the current AO. It would seem important to place limits on engine #8.*

> **Response:** This source is a peaking plant, and operates only intermittently to meet temporary power demands that occur more often in the warm summer months when air conditioners are being used, and less often in the winter when there is less demand for power in general. When the source does operate, the turbine is the primary source of power generation, not the engine. Therefore, for purposes of the PM_{10} plan, it is the emissions from the turbine that should be included.

Comment # 75b. *Subsection IX.H.2.a.(1)(b) contains a plantwide NOx emission limit only for a rolling 12-month period. A plantwide NOx emission limit in tons per day should also be included.*

> **Response:** As explained in the response to comment # 75a, it is the turbine that is primarily used to generate power at the plant. As proposed, there is a daily NO_X limit on the turbine.

Comment # 75c. *Subsection IX.H.2.a.(3) requires a NOx CEMS be installed, if plantwide NOx emissions exceed 200 tons over a 12-month period. This subsection should say which engine(s) the CEMS would have to monitor (there are 5 other large engines). {Comments made by the EPA}*

> **Response:** DAQ finds it difficult to pre-specify the details of a monitoring plan when the reasons triggering the need for monitoring are not yet determined. To insure such monitoring plan yields useful data to verify compliance with established limits, DAQ believes it should retain the ability to tailor the CEMS plan to suit the conditions at the time that the requirement is triggered.

IX.H.2.b. Central Valley Water Reclamation Facility

Comment # 76a. *The last two sentences of IX.H.2.b.(1)(b) should be deleted, as they are redundant with General Requirements.*

> **Response:** UDAQ agrees with this comment and will remove the duplicated sentences.

Comment # 76b. *Also, stack testing should be more frequent than once every five years. Emissions of NOx from engines could change considerably over five years. {Comments made by the EPA}*

> **Response:** EPA's comment stems from the argument that NOx emissions from the engines could change considerably over a five-year period. The most recently issued AO for the source (DAQE-AN04145005-02) specifies that the engines shall also be retested whenever a new baseline is established as a result of adjustments in fuel-to-air ratio, maintenance, or repair of the emission unit. UDAQ feels that this sort of requirement is most properly placed within the domain of the AO, as it can then be adjusted to become more frequent should the situation necessitate such a change.

IX.H.2.c. Chevron Products Co.

Comment # 77a. *Subsection IX.H.2.c.(1) does not contain a 12-month limit on plantwide PM_{10} emissions. It is not clear to us why another refinery in IX.H.2. (Flying J) would have a 12-month limit but Chevron would not.*

> **Response:** It was demonstrated in the review for DAQE-243-98 that many of the existing annual limits were equal to or less stringent that the corresponding daily limits. In preparation for title V permits, redundant limits were removed, including the limit addressed here, and only the shorter-term limits were retained.

Comment # 77b. *Subsection IX.H.2.c.(2)(a) says the SO_2 emission factor for the FCC CO Boiler and Catalyst Regenerator, as well as compliance with General Requirements at IX.H.1.h(1)(d), shall be determined by a stack test at least once every three years, with SO_2 CEMS allowed as an alternative. This subsection should be reworded to require a SO_2 CEMS, along with a volumetric flow measurement device. The Chevron Consent Decree, filed October 16, 2003 in U.S. District Court, requires a CEMS to be installed by June 2004.*

Response: The CEMS allowed as an alternative monitoring solution for the maintenance plan is a recognition that the consent decree required the installation of a CEMS on the FCC. However, the limits given in the consent decree are all in terms of "ppmvd," or dry concentration; the CEMS already required in the consent decree is sufficient for that limit. The consent decree did not impose mass limits, nor did it require a volumetric flow device. The limits in the MP are in tons/day. The required stack testing is adequate for demonstrating compliance with those limits. The language as written allows Chevron the option to use the consent-decree CEMS for compliance with the mass limits at a later date if it so chooses; at that time, a flow device or other alternate monitoring plan would be required.

Also, the comparison to Tesoro is inappropriate. Tesoro is monitoring SOx under an alternative monitoring plan that requires the use of both concentration and flow monitors. Chevron is not under an alternative plan at this time.

Comment # 77c. *It is not clear why no point-specific emission limits are proposed for the FCC CO Boiler and Catalyst Regenerator. The original 1991 PM_{10} SIP included emission limits for PM_{10}, SO_2 and NOx. The emission limit for SO_2 was nearly as high as the emission limit for the SRU. The magnitude of emissions would seem to warrant emission limits. {Comments made by the EPA}*

Response: Comment on "no point-specific limits for FCC": There are no point-specific limits for the FCC/CO boiler because the FCC and associated equipment was moved under the various emission caps in 2000, and the cap limitations were adjusted appropriately. See DAQE-6323-00.

IX.H.2.d. Flying J/Big West Oil Co.

Comment # 78a. *Subsection IX.H.2.c.(1)(ii) says the PM_{10} emission factor of 22 lbs/kbbl for the Catalyst Regeneration System "may be re-established by stack testing." This is not an enforceable requirement. This subsection should specify the circumstances or timeframe under which it would be necessary to re-establish the PM_{10} emission factor by stack testing.*

Response: The PM_{10} emissions from the Catalyst Regeneration System are calculated as:

PM_{10} = F*EF, where F is feed rate to the FCC in kbbl/time and EF is 22 lbs/kbbl.

The calculation is enforceable. The language in the maintenance plan is written to allow an update of the emission factor if requested. There is no fixed cycle for revisiting this factor or determined need at this time, nor was there any such language in the existing SIP. During development of the title V permit, a

schedule or conditions may be negotiated, and the MP should not interfere with that effort.

Comment # 78b. *Subsection IX.H.2.d.(2)(a)(ii) says the scalar values of 43.3 lb SO2/hr, 7688 bbl feed/day, and 0.1878 wt% sulfur in feed, shall be re-established by stack testing at least every five years. It is not clear to us how stack testing could re-establish a feed rate or a wt% sulfur in feed. This subsection needs clarification.*

Response: The current equation for determining SOx emissions is as follows:

SOx = [F/x][(wt% sulfur in feed)/(z)][y][hours of operation per day]

F = operational feed rate, bbl/day, for which the SO2 emission is to be calculated.
x = Feed rate, bbl/day, at the latest test. Until another test, use x = 7,688 bbl/day
y = SO2 emission rate, lbs/hr, corresponding to x bbl/day feed rate. Until another test, use y =43.3 lbs/hr.
z = Sulfur content, in weight %, measured in feed x at the latest test. Until another test, use Z =0.1878%.

This equation uses ratios, and follows the instructions in the existing SIP for determining the SO_2 contribution of the Plume Burner (the exit point for the old TCC). The feed rate, feed sulfur content and SO_2 emission rate are determined during a stack test; then the daily process variables (feed rate, feed sulfur content) are measured and inserted into the equation to calculate the current emissions. Future stack tests would allow for changes in the constants (scalar values) of the equation.

Comment # 78c. *Also, once every five years is not frequent enough. The crude slate and the performance of the Catalyst Regeneration System could change considerably in five years. This also appears to be a relaxation of the existing federally approved SIP. The existing SIP requires the weight % sulfur be determined by the refinery lab on a monthly basis and the gravity of the feed determined daily.*

Response: Flying J is currently required in its approval order (DAQE-AN0122033-04) to determine feed sulfur content every 30 days and to determine the feed rate daily. The sulfur content monitoring will be included in this source's section of the MP. Changes in the crude that affect SO_2 emissions are addressed by this sulfur testing and reflected in the equation above. However, gravity of the feed is not used in any calculation in this MP, so that has not been included. The existing SIP has no stated testing frequency for verifying the constants for this FCC, so the state's five-year rule was used as a default. The language for

retesting will be modified to "at least every five years" so that the MP does not interfere with development of a suitable interval in the title V permit.

Comment # 78d. *Subsection IX.H.2.d(a)(ii) says the scalar value of 180 ppm NO_X in Catalyst Regeneration System flue gas "may be re-established by stack testing." This is not an enforceable requirement. This subsection should specify the circumstances or timeframe under which it would be necessary to re-establish the scalar value by stack testing. {Comments made by the EPA}*

Response: The current equation for determining NOx emission is as follows:

NO_x = (Flue Gas, moles/hr) x (180 ppm /1,000,000) x (30.006 lb/mole) x (operating hr/day)

The calculation is enforceable. The language in the maintenance plan is written to allow an update of the emission factor determined at the last stack test if requested. There is no fixed cycle for revisiting this factor or determined need at this time, nor was there any such language in the existing SIP. During development of the title V permit, a schedule or conditions may be negotiated, and the MP should not interfere with that effort.

IX.H.2.f. Geneva Rock Products, Orem Plant

Comment # 79. *Subsection IX.H.2.f.(1) specifies daily emission limits for PM_{10}, SO_2 and NOx, but no 12-month limits. It is not clear to us why. {Comment made by the EPA}*

Response: This comment appears in a number of instances, and the general response is as follows: During the review of the latest permit(s) for these sources it was determined that many of the existing annual limits were equal to or less stringent that the corresponding daily limits. In fact, many of these sources did not have a specified annual limit but instead only had hourly limitations on individual emission units. When UDAQ established the daily emission limits for these sources, the corresponding annual limits were established by simply multiplying the daily limit by 365 days. No added value would be realized by the inclusion of an additional and mathematically redundant limitation.

IX.H.2.g. Geneva Rock Products, Point of the Mountain

Comment # 80. *Subsection IX.H.2.g.(1) specifies a daily emission limit for PM_{10}, but no 12-month limit. It is not clear to us why not. {Comment made by the EPA}*

Response: The annual limit was redundant. See response to comment #79 for a more complete explanation.

IX.H.2.h. Holly Refining and Marketing Co.

Comment # 81. *Subsection IX.H.2.h.(1) does not contain a 12-month limit on plantwide PM_{10} emissions. It is not clear to us why another refinery in IX.H.2. (Flying J) would have a 12-month limit but Holly Refining would not. {Comment made by the EPA}*

Response: The annual limits listed in the current approval order (DAQE-AN0123019-05) are equivalent to and redundant with the daily limits. In preparation for title V permits, redundant limits were removed, including the limit addressed here, and only the shorter-term limits were retained.

IX.H.2.i. Interstate Brick

Comment # 82a. *Subsection IX.H.2.i.(1) specifies daily emission limits for PM_{10}, SO_2 and NO_X, but no 12-month limits. It is not clear to us why not.*

Response: The annual limitation was redundant. See response to comment #79 for a more complete explanation.

Comment # 82b. *Also, a stack test frequency of once every five years for PM_{10} and NOx is not frequent enough. {Comments made by the EPA}*

***Response*:** This frequency of stack testing is consistent with the rule (R307-165-1), and is identical to the most recent AO issued to the source (DAQE-296-99).

IX.H.2.j. Kennecott - Bingham Canyon Mine and Copperton Concentrator

Bingham Canyon Mine:

Comment # 83a. *The only proposed limitation for the Mine is a limit on sulfur content of diesel fuel. The original 1991 PM_{10} SIP has a limit of 27,500,000 gallons per year of fuel consumed and a limit of 150,500,000 tons per year of ore and overburden moved. By eliminating these limits, UDAQ would eliminate any enforceable limit on the emission potential of the Mine. This is not acceptable. Since this source is listed in SIP section IX.H.2, there must be enforceable emission limits (or surrogates for emission limits) that reflect the amount of potential emissions used for modeling for NAAQS attainment/maintenance (2,560 tons/yr for PM_{10}, 22.6 tons/yr for SO_2, and 5,078 tons/yr for NOx). Also, UDAQ should explain why the "modeled PTE" for the Mine is only 22.6 tons/yr for SO2, when the current AO for the Mine lists the PTE for SO_2 at 97 tons/yr.*

Response: UDAQ agrees with this comment. The limitation on ore and overburden moved will be replaced as per the value listed in the AO. The most recent AO for this source (DAQE-178-02) changed the value of this limitation. The limitation will now be 197,000,000 tons per year of ore and overburden moved.

The fuel usage limitation is an artifact of the original 1991 SIP, and must be updated to reflect the changes in diesel fuel that are required by recent rules. Rather than limiting the source to a total number of gallons of fuel consumed, UDAQ will modify the limitation to read as follows:

Annual emissions of SO_2 from the combustion of fuel shall not exceed 97 tons per year. SO_2 emissions from fuel burning shall be determined by applying the appropriate emission factors to the relevant quantities of fuel combusted.

The general requirements will then cover the recordkeeping and reporting requirements.

UDAQ will make the revisions discussed above such that IX.H.2.j reads as follows:

"j. KENNECOTT UTAH COPPER: MINE and COPPERTON CONCENTRATOR

(1) *BINGHAM CANYON MINE:*

(a) Total material moved (ore and waste) shall not exceed 197,000,000 tons per 12-month period

(b) Annual emissions of SO_2 from the combustion of fuel shall not exceed 97 tons per year. SO_2 emissions from fuel burning shall be determined using the following equation:

tpy SO_2 = (gal fuel / year) * (7.05 lb/gal) * (% S by wt.) / 2000 lb/ton * (2 lb SO_2 / lb S)

(c) The sulfur content of diesel fuel oil burned in the equipment engines shall not exceed 0.03 pounds of sulfur per million BTU heat input as determined by the appropriate ASTM Method. This represents 0.05% sulfur by weight in the fuel oil."

UDAQ also agrees with the final section of this comment, specifically that the reference to the "modeled PTE of 22.6 tons/yr of SO_2, is in error. The correct value should indeed be 97 tons/yr as listed above. The difference between the two values is 75 tpy. Nevertheless, the model is not sensitive to a difference of this magnitude, and any increase or change in the overall impacts as a result of this error would be extremely minor.

Comment # 83b. *The original PM_{10} SIP includes requirements for control of fugitive emissions at the Mine, including a requirement for a Fugitive Dust Control Plan. A copy of the current approved Fugitive Dust Control Plan is attached to the AO for the Mine, dated March 22, 2002. If emission projections for modeling assume credit for these controls, then the requirements for these controls should be included in section IX.H.2.j. {Comments made by the EPA}*

Response: UDAQ did not rely on the dust control measures as outlined in the Fugitive Dust Control Plan when establishing the emission projections for modeling. Rather, it was the emission inventory submitted for 2001, in conjunction with the Approval Order, that acted as the basis for the modeled emissions.

Copperton Concentrator:

Comment # 84. *The section in Part H applying to the Copperton Concentrator should be deleted, because the rotary kiln has been shut down and removed, and the Molybdenite Plant is being upgraded with improved technology. A Notice of Intent covering these changes was submitted to UDAQ on February 8, 2005. The net effect will be reduced emissions for PM_{10} and NO_X, and SO_2 emissions will be nearly eliminated. Therefore, there are not now and will not be any sources at the Concentrator with high enough potential to emit to be included in Part H. {Comment made by Kennecott}*

Response: UDAQ agrees. The final Approval Order is about to be issued. The following is the abstract from the engineering review associated with the project:

"Kennecott Utah Copper Corporation (KUCC) has requested approval to install a pebble crushing process at KUCC's Copperton Concentrator. The KUCC Copperton Concentrator is currently operating under the Approval Order DAQE-862-01, dated November 20, 2001. KUCC intends to add two pebble-crushing units and related material handling equipment. This will allow KUCC to increase the throughput of copper ore through the concentrator and improve process efficiency. KUCC has stopped operation of the Feed Molybdenite Dryers and Molybdenite Rotary Kiln and has requested that they be removed from the AO. The stack testing requirements for this equipment and for the Product Molybdenite Dryers have been removed. KUCC is also requesting replacement of one of its product molybdenite dryers and associated heater with a larger product molybdenite dryer that will use the existing product molybdenite dryer scrubber and one of the existing feed molydbenite dryer heaters to supply hot oil to the new product molybdenite dryer. New Source Performance Standards (NSPS) Subpart LL (Standards of Performance for Metallic Mineral Processing Plants) apply to this source. Title V of the 1990 Clean Air Act applies to this source. Salt Lake County is a non-attainment area of the National Ambient Air Quality Standards (NAAQS) for PM_{10} and SO2, and is a maintenance area for

ozone. The KUCC Copperton Concentrator is also included as a regulated PM_{10} source in the Salt Lake County PM_{10} State Implementation Plan (SIP). This AO modification will result in a modification to the existing SIP limits. Therefore, this modification will require approval by the Air Quality Board. The emissions will decrease in tons per year (tpy) as follows: PM_{10} = 1.19, SO2 = 86.30, NOx = 6.95, CO = 5.84, VOC = 23.38. The changes in emissions will result in the following, in tons per year, potential to emit totals: PM_{10} = 7.35, SO2 = 0.10, NOx = 10.75, CO = 9.06, and VOC = 2.32."

Subsection IX.H.2.j will be modified to remove paragraph (2) Copperton Concentrator as follows:

"[~~(2) COPPERTON CONCENTRATOR:~~

~~Emissions to the atmosphere from the indicated emission point shall not exceed the following rate when the kiln is being operated as a heat treater (ie. the temperature of the molybdenite product exiting the rotary kiln exceeds 450° F for more than one hour):~~

~~Molybdenite Rotary Kiln SO_2 0.314 tons/day~~

~~A Continuous Emissions Monitor (CEM), installed and operated when the kiln is being operated as a heat treater in accordance with R307-170, shall be used to determine compliance with the SO_2 limitation. All continuous monitoring data shall be kept for a minimum of five years after the date on which emissions occurred and shall be made available to the Executive Secretary upon request.~~]"

IX.H.2.k. Kennecott Power Plant and Tailings Impoundment

For the Power Plant:

Comment # 85a. *Subsection IX.H.2.k.(1)(a) should be re-arranged to make clear what fuel consumption limits (or emission limits) apply to the Power Plant outside of the period Nov-Feb. {Comment made by the EPA}*

Response: UDAQ agrees, and will insert the appropriate conditions from the most recent Approval Order. See revised construct of Section IX.H.2.k.(1) below.

Comment # 85b. *In condition (a)(ii), the fuel limits should be expressed in terms of Btu/day, not volume or weight of fuel. The language should match that used in the revised Approval Order [NOTE: the new Approval order was approved by the Air Quality Board on May 11, 2005.] {Comment made by Kennecott}*

Response: UDAQ agrees, and will insert the appropriate conditions from the most recent Approval Order. See revised construct of Section IX.H.2.k.(1) below.

Comment # 85c. *Regarding Kennecott's Power Plant (IX.H.2.k), We request that (a) - (e) be added after requirements in the first sentence. {Comment made by Kennecott}*

Response: UDAQ agrees in concept, but will instead add the appropriate clarification into this statement. Note that the summertime limits will be included as well (see comment 85a above). See revised construct of Section IX.H.2.k.(1) below.

Comment # 85d. *In conditions (a)(iii) and (iv), "and concentrations" should be deleted because all the limits for all sources in Part H are in tons/day. {Comment made by Kennecott}*

Response: UDAQ agrees. See revised construct of Section IX.H.2.k.(1) below.

Comment # 85e. *Subsection IX.H.2.k.(1)(e) says metering of natural gas to the boilers "shall be installed if necessary." This same language appears in the original 1991 PM_{10} SIP. Thirteen years has passed, and the State should make a determination. {Comment made by the EPA}*

Response: UDAQ agrees, and will insert the appropriate language from the most recent Approval Order, which no longer includes this option. Note that this language (paragraph (f)) is slightly different than what was proposed given that the fuel consumption limits are now expressed in terms of MMBTU per day. See revised construct of Section IX.H.2.k.(1) below.

Comment # 85f. *Subsection IX.H.2.k.(1)(f) says that the requirements in IX.H.2.k.(1) for the Power Plant apply "unless and until" a Notice of Intent is submitted for "specific technologies" and an Approval Order is issued. This subsection goes on to discuss the Approval Order and the Title V Operating Permit. The entire subsection IX.H.2.k.(1)(f) is unacceptable and must be removed. PM_{10} SIP requirements cannot be made contingent on issuance of Approval Orders, nor can Approval Orders supersede the PM_{10} SIP. Treatment of requirements in permits that might serve as alternatives to SIP requirements is already addressed in section IX.H.3. of the PM_{10} Maintenance Plan. {Comment made by the EPA}*

Response: Subsection IX.H.2.k.(1)(f), as proposed, requires the issuance of an Approval Order as only one of a sequence of events that would need to occur in order to alter the proposed SIP requirements. As foreseen, this process would need to address a RACT determination made in the original PM_{10} SIP, whereby the Utah Power Plant was required to burn natural gas during the winter. That determination was made fifteen years ago when the price of natural gas was significantly lower than it is at the present. Given today's economics, it may be for example that the combination of a baghouse with lime injection and low NO_X burners would represent a more economical RACT (with summertime benefits for ozone as well). Since the CAA requires RACT, at a minimum, to demonstrate

attainment/maintenance of the NAAQS, the emissions from such technology would have to be modeled to ascertain as much. Such modeling has also been included as a necessary step in paragraph (f), yet no such requirement exists in section IX.H.3. RACT however is less stringent than BACT, and this is precisely why the Approval Order process, as outlined in R307-401, has been included as a necessary step in this process. R307-401 requires a BACT analysis as part of any Approval Order issued by the Executive Secretary. Should the Executive Secretary be able to make such a finding and issue an AO, the BACT requirements would then be eligible for inclusion in a Part 70 permit, just as is required by section IX.H.3. The Part 70 process would give the EPA veto authority over any such permit, approval of which is yet another required element in the process outlined in paragraph (f). It is not until the Part 70 permit becomes effective, after approval by EPA, that the requirements contained therein would supercede the requirements in the SIP. Hence, UDAQ disagrees with the comment, and will leave the condition as proposed.

Comment # 85g. *Finally, Kennecott agrees with UDAQ's approach for addressing future RACM by specifying how such a modification would be adopted as part of an Approval order, Title V permit, and incorporation into the SIP. Specifically, concurs with condition (f)(vii) that incorporates into the SIP only the Title V provisions that are appropriate for the SIP. However, the new section IX.H.3 does not address the circumstance where the SIP specifies the process for RACM (RACT) modification. It appears that IX.H.3 would create an inconsistency with subsection (f) in IX.H.2.k. We recommend adding the following sentences at the end of IX.H.2.k(1)f)(vii): "As of the effective date of the Operating Permit, the PM_{10}. SO_2, and NO_x emission limits for the Utah Power Plant boilers, including applicable monitoring requirements, set forth in that permit as most recently amended, shall become incorporated by reference into the Utah SIP. Henceforth, those terms and conditions specified in the operating Permit shall supersede conditions (a) - (e) above.[The implementation of this subsection (f) shall not require compliance with the provisions of Subsection IX.H.3.]" {Comment made by Kennecott}*

Response: The procedure outlined in condition H.2.k.(1)(f) establishes a process that could be used to establish a new RACT determination for the Kennecott Power Plant. If this procedure is followed, then Kennecott will be in compliance with the SIP and it will not be necessary for Kennecott to establish an alternative requirement under Subsection IX.H.3. The suggested language is not necessary in this case.

Provided below is a markup copy of the proposed Subsection IX.H.2.k.(1) which reflects the responses to comments # 85 a-g.

"k. KENNECOTT UTAH COPPER: POWER PLANT and TAILINGS IMPOUNDMENT

(1) *UTAH POWER PLANT*

The following requirements[, subsections (a) through (f),] are applicable unless and until the owner/operator has complied with the requirements set forth in Subsection [(g)][~~(f)~~] below.

(a) During the period from November 1, to the last day in February, inclusive, the following conditions shall apply:

(i) The four boilers shall use only natural gas as a fuel, unless the supplier or transporter of natural gas imposes a curtailment. The power plant may then burn coal, only for the duration of the curtailment plus sufficient time to empty the coal bins following the curtailment.

(ii) Fuel usage shall be limited to the following:

(A) [42,706 MMBTU per day of natural gas][~~40 million cubic feet per day of natural gas;~~]

(B) [31,510 MMBTU per day of coal, only during curtailment of natural gas supply][~~1,370 tons per day of coal, only during curtailment of natural gas supply~~]

(iii)*NATURAL GAS USED AS FUEL:*

Except during a curtailment of natural gas supply, emissions to the atmosphere from the indicated emission point shall not exceed the following rates[~~and concentrations~~]:

(A) For each of boilers no. 1, 2, & 3:

NO_X	1.91 ton/day

(B) For boiler no. 4:

NO_X	3.67 ton/day

(iv)*COAL USED AS FUEL:*

Emissions to the atmosphere from the indicated emission point shall not exceed the following rates[~~and concentrations~~]:

(A) For each of boilers no. 1, 2, & 3:

(I) PM_{10}	0.208 ton/day
(II) NO_X	2.59 ton/day

(B) For boiler no. 4:

(I)	PM_{10}	0.402 ton/day
(II)	NO_X	4.52 ton/day

(v) Owner/operator shall provide monthly reports to the Executive Secretary showing daily total emission estimates based upon boiler usage, fuel consumption and previously available results of stack tests.

(a) [**(b)** During each annual period from March 1 to October 31, inclusive, the following conditions shall apply:

(i) KUCC shall use coal, natural gas, oils that meet all the specifications of 40 CFR 266.40(e) and contains less than 1000 ppm total halogens, and/or number two fuel oil or lighter in the boilers.

(ii) The following limit on fuel usage shall not be exceeded:

50,400 MMBTU per day of heat input

(iii) Emissions to the atmosphere from each emission point shall not exceed the following rates and concentrations:

(A) For each of boilers no. 1, 2 & 3:

(i)	PM_{10}	0.208 ton/day
(II)	NOx	2.59 ton/day

(B) For boiler no. 4:

(I)	PM_{10}	0.402 ton/day
(II)	NOx	4.52 ton/day

]

~~(b)~~ **(c)** Stack testing to show compliance with the above emission limitations shall be performed as follows for all four boilers and the following air contaminants:

	POLLUTANT	*TESTING FREQUENCY*
(i).	NO_X	every year
(ii)	PM_{10}	every year

The heat input during all compliance testing shall be no less than 90% of the design rate. To determine mass emission rates (ton/day) the pollutant concentration as determined by the appropriate methods shall be multiplied by

the volumetric flow rate and any necessary conversion factors to give the results in the specified units of the emission limitation.

The limited use of natural gas during startup, for maintenance firings and break-in firings does not constitute operation and does not require stack testing.

~~(c)~~ **(d)** Visible emissions from the boiler stacks shall not exceed the associated opacity on a six-minute average, based on 40 CFR 60, Appendix A, Method 9, or as measured by a Continuous Opacity Monitor except as provided for in R307-201-1(7):

(i) Natural Gas as Fuel 10% opacity
(ii) Coal as Fuel 20% opacity

~~(d)~~ **(e)** The sulfur content of any fuel burned shall not exceed 0.52 lb of sulfur per million Btu (annual running average), nor shall any one test exceed 0.66 lb of sulfur per million Btu. The owner/operator shall submit monthly reports of sulfur input to the boilers. The reports shall include:

* sulfur content,
* gross calorific value and moisture content of each gross coal sample,
* the gross calorific value of all coal and gas,
* the total amount of coal and gas burned, and
* the running annual average sulfur input calculated at the end of each month of operation.

~~(e)~~ **(f)** [To determine compliance with a daily limit owner/operator shall calculate a daily limit. The BTU limit shall be determined by monitoring the daily natural gas, and/or coal consumption and multiplying that value with the BTU rating of the fuel consumed. The natural gas BTU used shall be that value supplied by the natural gas vendor from the previous months bill. The BTU limit for coal shall be determined by monitoring the daily coal consumption and multiplying that value with the coal BTU rating. KUCC shall provide test certification for each load of coal received. Test certification for each load received shall be defined as test once per day for coal received that day from each supplier. Certification shall be either by their own testing or test reports from the coal marketer. Records of BTU fuel usage shall be kept on a daily basis.][~~Natural gas consumption shall be determined by metering the gas as it is fed into the boilers with gauges, which shall be installed if necessary. Records shall be kept on a daily basis. Coal consumption shall be determined by examination of purchase records and electricity production records. Records of fuel consumption shall be made available to the Executive Secretary upon request, and shall include a period of five years ending with the date of the request.~~]

~~(f)~~ **(g)** The requirements set forth in conditions (a) – [(f)][~~(e)~~] above shall apply at the Utah Power Plant unless and until the following occur:

(i) A Notice of Intent is submitted to the Executive Secretary, pursuant to the procedures of R307-401, that describes the specific technologies that will be used.

(ii) An Approval Order is issued that authorizes implementation of the approach set forth in the Notice of Intent.

(iii) Notwithstanding the requirements specified in R307-401, the Notice of Intent must demonstrate that the technologies specified in the Approval Order would represent Reasonably Available Control Measures (RACM), as required by Section 172(c)(1) of the Clean Air Act.

(iv) To the extent that the current SIP requirements outlined above in conditions (a) - [(f)][~~(e)~~] above have been relied upon by the Utah SIP to satisfy Section 172(c)(4) or Section 175A(a) of the Clean Air Act, demonstrate that the technologies specified in the Approval Order would also provide for attainment or maintenance of the National Ambient Air Quality Standards. The demonstration required in this paragraph may incorporate modeling previously conducted by the State for the purpose of a maintenance demonstration.

(v) The technologies specified in the Approval Order have been installed and tested in accordance with the Approval Order.

(vi) The terms and conditions of the Approval Order implementing the approach set forth in the Notice of Intent have been incorporated into a Title V Operating Permit, in accordance with R307-415.

(vii) As of the effective date of the Operating Permit, the PM_{10} SO_2 and NO_x emissions limits for the Utah Power Plant boilers, including applicable monitoring requirements, set forth in that permit as most recently amended , shall become incorporated by reference into the Utah SIP. Henceforth, those terms and conditions specified in the Operating Permit shall supersede conditions (a) - [(f)][~~(e)~~] above."

For the Tailings Impoundment:

Comment # 86a. *The approach of incorporating the Title V permit by reference (IBR) is not acceptable, for several reasons. First, no specific edition of the Title V permit is referenced. Second, Utah can amend the Title V permit without going through a SIP revision process. Third, the Title V permit expires after 5 years. Fourth, there is*

considerable language in the Title V permit about other Kennecott operations that is extraneous to the Tailings Impoundment.

This IBR approach is also unacceptable because the Federal Register notice that EPA will be publishing on the PM_{10} Maintenance Plan must reference a SIP submittal that contains the requirements directly, not reference a submittal that references other documents for source-specific requirements.

We are aware that UDAQ proposes to issue an updated AO for the Tailings Impoundment, after presenting it to the Utah Air Quality Board for approval in May of 2005. The draft AO has already gone through public comment period. We have examined the draft AO and find that AO conditions 9 through 21, along with Appendix A of the AO, are specific requirements that should be included in section IX.H.2.k.(2) of the PM_{10} Maintenance Plan. {Comment made by the EPA}

Comment # 86b. *Part A, page 34, line 20 says "The terms of this dust plan have been incorporated into the SIP at Section IX, Part H." The specific requirements for the North Tailings Impoundment should be explicitly incorporated into Part H, not incorporated by reference along with everything else in the Title V permit. For all sources except the Kennecott Tailings Impoundment, UDAQ has removed all but essential detail from the SIP; Kennecott recommends the same approach be used for the Tailings Impoundment. The items that should be included in the emissions limits address the cycle time, the tailings distribution system, revegetation of the North Impoundment, dust from the embankment, stabilization methods, and requirements for a temporary or permanent shutdown. {Comment made by Kennecott}*

> ***Response*****:** UDAQ staff recommends including specific conditions for the Kennecott Tailings Impoundment in Part H of the PM_{10} SIP as suggested in the above comments.
>
> Recommended Staff SIP conditions incorporate all of the above except for the incorporation of Appendix A (Fugitive Dust Plan).
>
> Appendix A was not included for the following three reasons:
>
> 1. Many of the conditions in the Fugitive Dust Plan duplicate the conditions already found in the SIP.
> 2. Many of the conditions in the Fugitive Dust Plan have little or no bearing on dust control and the site.
> 3. Many of the conditions in the Fugitive Dust Plan provide information and requirements that are not appropriate to be included in the SIP.
>
> The following is the recommended language to be incorporated in Part H of the PM_{10} SIP.

Section IX, Part H.2.k.

(2) TAILINGS IMPOUNDMENT:

[~~Title V Operating Permit # 3500346001, as most recently amended and to the extent that it applies to the Tailings Impoundment, is hereby incorporated by reference and made part of the Utah SIP.~~]

(a) Visible emissions caused by fugitive dust shall not exceed 10% at the property boundary, and 20% onsite except during periods when wind speeds exceed the value specified in UAC R307-309 and control measures in the most recently approved dust control plan are being taken. The fugitive dust control plan shall utilize the fugitive dust control strategies listed in UAC R307-205 and R307-309.

(b) Kennecott shall submit reports and conduct on site inspections on the fugitive dust abatement program activities for the executive secretary as specified in the most current Approval Order and operating permit.

(c) All unpaved roads and other unpaved operational areas that are used by mobile equipment shall be water sprayed or chemically treated to control fugitive dust. Treatment shall be of sufficient frequency and quantity to maintain the surface material in a damp/moist or crusted condition.

(d) On the North Tailings Impoundment, as the embankment cells are filled during continual raising of the embankment, dust shall be controlled by the inherent high water content of the hydraulically placed cyclone underflow. Portions of the embankment that are not under active construction shall be kept wet or tackified by applying chemical stabilizing agents or water pumped from the toe ditch. Newly formed exterior slopes shall be stabilized with chemical stabilizing agents or vegetation.

(e) Disturbed or stripped areas of the North Tailings Impoundment shall be kept sufficiently moist during the project to minimize fugitive dust. This control, or other equivalent control methods, shall remain operational during the project cycle and until the areas have been reclaimed. The control methods used shall be operational as needed 24 hours per day, 365 days per year or until the area has been reclaimed.

(f) The minimum cycle time required for wetting all interior beach areas of the North Impoundment between February 15 and November 15 shall be at least every four days.

(g) On the North Tailing Impoundment Kennecott shall conduct wind erosion potential inspections monthly between February 15 and November 15. The tailings distribution system consisting of the North Tailing Impoundment shall be operated to maximize surface wetness. Wind erosion potential is the area that is

not wet, frozen, vegetated, crusted or treated and has the potential for wind erosion. No more than 50 contiguous acres or more than 5% of the total North tailings area shall be permitted to have the potential for wind erosion. If it is determined that the total surface area with the potential for wind erosion is greater than 5%, or at the request of the Executive Secretary, inspections shall be conducted once every five working days. Kennecott shall immediately initiate the revised inspection schedule and the results reported to the Executive Secretary within 24 hours of the inspection. The schedule shall continue to be implemented until Kennecott measures a total surface with the potential for wind erosion of less than or equal to 5%. If Kennecott or the Executive Secretary, determines that the percentage of wind erosion potential is exceeded, Kennecott shall meet with the Executive Secretary, or Executive Secretary's staff, to discuss additional or modified fugitive dust controls/operational practices, and an implementation schedule for such, within five working days following verbal notification by either party.

(h) On the closed South Tailings Impoundment Kennecott shall conduct wind erosion potential inspections on inactive non-reclaimed areas monthly between February 15 and November 15. No more than 50 contiguous acres or more than 5% of the South Tailings impoundment tailings area shall be permitted to have the potential for wind erosion. Wind erosion potential is the area that is not wet, frozen, vegetated, crusted or treated and has the potential for wind erosion. Inactive but non-reclaimed areas are to be stabilized by chemical stabilizing agents, ponded water, sprinklers, vegetation or other methods of fugitive dust control. If it is determined by Kennecott or the Executive Secretary, that the total surface area with the potential for wind erosion is greater than 5% of total tailings area, or at the request of the Executive Secretary, inspections shall be conducted once every five working days. Kennecott shall immediately initiate the revised inspection schedule and the results reported to the Executive Secretary within 24 hours of the inspection. The schedule shall continue to be implemented until Kennecott measures a total surface with the potential for wind erosion of less than or equal to 5% total tailings area. If Kennecott or the Executive Secretary, determines that the percentage of wind erosion potential is exceeded, Kennecott shall meet with the Executive Secretary, or Executive Secretary's staff, to discuss additional or modified fugitive dust controls/operational practices, and an implementation schedule for such, within five working days following verbal notification by either party.

(i) Exterior tailings impoundment areas determined by Kennecott or the executive secretary to be sources of excessive fugitive dust shall be stabilized through vegetation cover or other approved methods. The exterior tailings surface area of the North Impoundment shall be re-vegetated or stabilized so that no more than 5% of the total exterior surface area shall be subject to wind erosion.

(j) If between February 15 and November 15 of each calendar year Kennecott's weather forecast is for a wind speed at more than 25 mph for more than one hour

within 48 hours of issuance of the forecast, the procedures listed below shall be followed:

A. Alert the DAQ promptly.
B. Continue surveillance and coordination.

(k) If a temporary or permanent shutdown occurs that would affect any area of the Kennecott Tailings Impoundment, Kennecott shall submit a final dust control plan for all areas of the Tailings Impoundment to the Executive Secretary for approval at least 60 days prior to the planned shutdown.

IX.H.2.l. Kennecott Smelter & Refinery

For the Smelter:

Comment # 87a. *Subsection IX.H.2.l.(1)(a)(i)(B) lists allowable SO_2 emissions at the main stack as 5,700 lb/hr on a 24-hour average and 3,240 lb/hr on an annual average. These are the same allowable emissions listed in the 1991 PM_{10} SIP. After the original PM_{10} SIP was promulgated, Kennecott modernized the smelter and banked the emission reductions. (Reference: State "banking order" to Kennecott dated June 9, 1999, lists 17,685.50 tons per year of banked SO_2 emissions.) Since the current Approval Order for the Smelter allows only 211 lb/hr on an annual average, it appears that 13,267 tons per year of banked SO2 emissions are to be given back to Kennecott, in terms of increased allowable emissions at the main stack:*

$$\frac{(3240-211)\ lb/hr \times 8760\ hr/yr}{2000\ lb/ton} = 13{,}267\ tons/yr\ increase$$

It is our understanding that the State intends to allow these 13,267 tons/yr of emissions to also remain in the bank, available for sale from Kennecott to other sources. This constitutes double-counting of emission credit and is not acceptable. {Comment made by the EPA}

Response: The larger limits were included in Part H with the idea of preserving the banked emissions (ERCs). The thinking was that if they had not been relied upon then it might be construed that the difference between the limits in the AO and those in the SIP was no longer creditable.

What was actually modeled however, was the smaller limits plus the banked ERCs. These then add back up to the higher limits.

Since the banked ERCs were included in the modeling, they were relied upon in the demonstration.

So long as this is generally understood, then UDAQ agrees with EPA, and will put the lower limits into the SIP. See revised construct of Section IX.H.2.l.(1)(a)(i) below.

Comment # 87b. *Also, there appears to be conflicting information in the PM_{10} Maintenance Plan regarding what SO_2 emission rate at Kennecott's main stack was used for modeling. Volume VII of the Technical Support Document, at page 3.b.iv-1, says that, regarding "the SO_2 emission credits attributed" to the Kennecott smelter, "4,328 tpy was modeled at ground level, like all other banked emissions, but the remaining 12,567 tpy was modeled as if they were emitted from the 1,200 foot tall stack." Page 3.b.iii-120, however, lists the "modeled PTE" for SO_2 at 867.22 tons/yr for "Smelter - Fugitives," 867.22 tons/yr for "Copper smelting (main stack)" and 213.16 tons/yr for "recycle and crushing." The total is only 1,947.6 tons/yr of SO_2 emissions. The State should explain, and reconcile if necessary, the apparent discrepancy between these two pages of the Maintenance Plan. {Comment made by the EPA}*

Response: There is no discrepancy between the totals described in the comment.

The SO_2 emission credits attributed to the Kennecott Smelter, described at Volume VII of the Technical Support Document, at page 3.b.iv-1, are the banked emissions or ERCs presently held by Kennecott. The origin of the ERCs from the smelter could be grouped into two categories; ground level "fugitive" emissions and 2) emissions eminating directly from the 1,200 foot stack (see existing SIP; Table IX.A.13, page 4 of 5 for distinction). In the model, 4,328 tpy was represented as low-level SO_2 and 12,567 tpy was assigned to the 1,200 foot stack.

The model also included allowable emissions from the smelter. These emissions are documented at page 3.b.iii-120, and do in fact show 1,947.6 tons/yr of SO_2 emissions (867.22 tons/yr for "Smelter - Fugitives," 867.22 tons/yr for "Copper smelting (main stack)" and 213.16 tons/yr for "recycle and crushing.") However, as pointed out in Comment # 100, this total has incorrectly "double-counted" the 867.22 tons/yr of emissions from the smelter. If this error had underestimated the inventory, DAQ would have re-run the modeling analysis using the correct numbers. Because the change overestimated emissions, the conclusions of the analysis are not affected. See also the response to comment #100.

Comment # 87c. *Subsection IX.H.2.l.(1)(a)(ii) proposes an allowable SO_2 concentration in acid plant tailgas of 1,050 ppmdv on a 3-hr rolling average. No other ppmdv limits are proposed for the acid plant. This is not acceptable. The original PM_{10} SIP specified 650 ppmdv on a 6-hr average as RACT. We have no information to suggest that 1,050 ppmdv on a 3-hr average should be considered at least as stringent as 650 ppmdv on a 6-hr average. We are aware that EPA approved a revision to the SO_2 SIP several years ago that included a figure of 1,050 ppmdv on a 3-hr average, but that SIP revision also retained the figure of 650 ppmdv on a 6-hr average (i.e., both limits must be met, not just*

the 1,050). EPA has never approved the removal of the 650 ppmdv limit. Considering that the current Approval Order for the Smelter, dated December 22, 2000, allows only 250 ppmdv on a 6-hr average, 170 ppmdv on a 24-hr average, and 100 ppmdv on an annual average, we consider 650 ppmdv on a 6-hr average to be easily achievable and see no justification to remove it from the SIP. {Comment made by the EPA}

Response: The limit of 1,050 ppmdv SO_2 on a 3-hr average was retained for the purpose of the SO_2 plan. Recall that for the SO_2 NAAQS there is a 3-hr secondary standard of 0.5 ppm. For PM_{10}, it was felt that, in general, there was no need for a limit on the acid plant tail-gas concentration since these emissions are ultimately released from the 1,200 foot stack, and there are already mass emission limits governing that release point. Nevertheless, EPA makes a good point that the tail-gas concentration was a significant element of the original RACT determination for the PM_{10} SIP. UDAQ concurs that the 6-hr. limit of 650 ppmdv should be retained in Part H, and will make the necessary addition. See revised construct of Section IX.H.2.l.(1)(a)(ii) below.

Comment # 87d. *Subsection IX.H.2.l.(1)(c)(i) says Kennecott "shall calibrate, maintain and operate the measurement systems for continuously monitoring SO_2 and NO_X concentrations and stack gas volumetric flow rates in the main smelter stack." This language is not specific enough for practical enforceability. This subsection should include the language from condition 10 of the current AO dated December 22, 2000. {Comment made by the EPA}*

Response: UDAQ agrees that additional specificity is needed, but does not think that the language from the Approval Order is necessary. There are other instances within the proposed Part H where CEMs are required to demonstrate compliance with various emission limits. In every such case, (Chevron's and Flying J's and Holly's say "that meets the requirements of R307-170." Tesoro's says "...that meets or exceeds the requirements contained in 40 CFR 60, Appendix B, Performance Specification 2." Pacificorp (Gadsby's) says "...as required by 40 CFR Part 75 for the Acid Rain Program.") a reference was made to an existing regulation that already contains such details. UDAQ will add the appropriate reference to Subsection IX.H.2.l.(1)(c)(i). See revised construct of Section IX.H.2.l.(1)(c)(i) below.

Comment # 87e. *Regarding the Kennecott Smelter (IX.H.2.l), we see no rationale for keeping the opacity limit for the acid plant tailgas, because the gas is SO_2 and it is invisible. The 15% opacity limit will remain in the Approval Order and the Title V permit, and the NSPS opacity limit continues to apply. We request that condition (d)(ii) and the reference to tailgas in condition (d)(iii) be deleted. {Comment made by Kennecott}*

Response: UDAQ agrees that this condition is not necessary as part of the SIP. The acid plant tailgas is ducted to the 1,200 foot stack which has an opacity limit at its release to the atmosphere. See revised construct of Section IX.H.2.l.(1)(d) below.

Comment # 87f. *In condition (c)(ii), first line, change "permittee" to "owner/operator." {Comment made by Kennecott}*

Response: UDAQ agrees, and will make the necessary revision. See revised construct of Section IX.H.2.l.(1) below.

Comment # 87g. *Condition (e) has been copied directly from the Title V permit and reads like a permit; subpart (iii) can be deleted, and perhaps subpart (i) as well. If subpart (i) is kept, delete for this permit condition. {Comment made by Kennecott}*

Response: UDAQ agrees, and will make the necessary revisions. See revised construct of Section IX.H.2.l.(1) below.

Comment # 87h. *In the last paragraph of condition (f), the reference should be corrected (f), not (g). {Comment made by Kennecott}*

Response: UDAQ agrees, and will make the necessary revision. See revised construct of Section IX.H.2.l.(1) below.

Provided below is a markup copy of the proposed Subsection IX.H.2.l.(1) which reflects the responses to comments # 87 a-h.

"l. KENNECOTT UTAH COPPER: SMELTER and REFINERY

(1) *SMELTER:*

(a) Emissions to the atmosphere from the indicated emission points shall not exceed the following rates and concentrations:

(i) Main Stack (Stack No. 11)

(A) PM_{10}		89.5 lbs/hr (24 hr. average)
(B) SO_2	(I)	[**552 lbs/hr**][~~6,450 lbs/hr~~] (3 hr. average – rolling)
	(II)	[**422 lbs/hr**][~~5,700 lbs/hr~~] (24 hr. average - calendar day)
	(III)	[**211 lbs/hr**][~~3,240 lbs/hr~~] (annual average)
(C) NO_X		35.0 lbs.hr (annual average)

(ii) Acid Plant Tail Gas

SO_2 [**(I)**] 1,050 ppmdv (3 hr. rolling average)
[**(II)**] **650 ppmdv (6 hr. rolling average)**]

All annual average emissions limits shall be based on rolling 12-month averages. Based on the first day of each month, a new 12-month total shall be calculated using the previous 12 months.

Reference to stack in Condition #1 above and Condition #2 below may not necessarily refer to an exhaust point to the atmosphere. Many emission sources are commingled with emissions from other sources and exit to the atmosphere from a common emission point. "Stack" in these conditions refers to the point prior to mixing with emissions from other sources.

(b) Stack testing to show compliance with the emissions limitations of Condition (a) above shall be performed as specified below:

EMISSION POINT	*POLLUTANT*	*TEST FREQUENCY*
(i) Main Stack PM_{10}		every year
(Stack No. 11)	SO_2	CEM
	NO_X	CEM
(ii) Acid Plant Tailgas	SO_2	CEM

(c) Testing Status (To be applied to (a) and (b) above)

(i) To demonstrate compliance with the main stack mass emissions limits for SO_2 and NO_X of Condition (a)(i) above, KUC shall calibrate, maintain and operate the measurement systems for continuously monitoring SO_2 and NO_X concentrations and stack gas volumetric flow rates in the main smelter stack.[**Such measurement systems shall meet the requirements of R307-170.**]

(ii) In addition to the stack test required to measure PM_{10} in (b) above, the [**owner/operator**][~~**permittee**~~] shall calibrate, maintain and operate a system to continuously measure emissions of particulate matter from the main stack. For purposes of determining compliance with the emission limit, all particulate matter collected shall be reported as PM_{10}. Compliance with the main stack emission limit for PM_{10} shall be demonstrated using the smelter main stack continuous particulate sampling system to provide a 24-hour value. The [**owner/operator**][~~**permittee**~~] may petition the Air Quality Board at any time to discontinue the operation of the continuous monitor. An analysis of the potential PM_{10} uncontrolled emissions from the main stack shall be submitted to the Executive Secretary at the time of such a petition.

(iii) The owner/operator shall install, calibrate, maintain, and operate continuous monitoring systems on the acid plant tail gas.

(iv) All monitoring systems shall comply with all applicable sections of R307-170.

(v) KUC shall maintain records of all measurements necessary for and including the expression of PM_{10}, SO_2 and NO_X emissions in terms of pounds per hour. Emissions shall be calculated at the end of each day for the preceding 24 hours for PM_{10}, SO_2 and NO_X and calculated at the end of each hour for the preceding three-hour period for SO_2. Results for each measurement or monitoring system and reports evaluating the performance of such systems shall be summarized and shall be submitted to the Executive Secretary within 20 days after the end of each month.

(d) Visible emissions from the following emission points shall not exceed the following values:

(i) Smelter Main Stack (stack 11) 20% opacity

[~~**(ii) Acid Plant Tail Gas 15% opacity**~~]

[(ii)][~~(iii)~~] Sources equipped with continuous opacity monitors (acid plant tailgas and main stack) shall use the compliance methods contained in 40 CFR 60.11.

(e) All gases produced during smelting and/or converting which enter the primary gas handling system shall pass through an online sulfuric acid plant. During the start-up/shutdown process of any equipment, the gas emissions shall be ducted, as necessary, either to the acid plant or to the secondary scrubber for control.

(i) [**A log shall be kept of any time the gases produced during smelting and/or converting are not passed through an online sulfuric acid plant. An additional log shall be kept and include the dates, times and durations of all times any gases from smelting and/or converting bypass both the acid plant and the secondary gas system. *The log will serve as the monitoring requirement.***][~~**Records required for this permit condition will serve as monitoring.**~~]

[~~**(ii) A log shall be kept of any time the gases produced during smelting and/or converting are not passed through an online sulfuric acid plant. An additional log shall be kept and include the dates, times and durations of all times any gases from smelting and/or converting bypass both the acid plant and the secondary gas system.**~~]

[~~**(iii) There are no reporting requirements for this provision.**~~]

(f) The owner/operator shall employ the following measures for reducing escape of pollutants to the atmosphere and to capture emissions and vent them through a stack or stacks:

(i) Maintenance of all ducts, flues, and stacks in such a fashion that leakage of gases to the ambient air will be prevented to the maximum extent practicable.

(ii) Operation and maintenance of gas collection systems in good working order.

(iii) Making available to the Executive Secretary the preventive/routine maintenance records for the hooding systems, dust collection mechanism of waste heat boilers, furnace wet scrubbing systems, and dry electrostatic precipitators.

(iv) Weekly observation of process units.

(v) Monthly inspection of gas handling systems.

(vi) Maintenance of gas handling systems, available on call on a 24-hour basis.

(vii) Operation and maintenance of an upwind/downwind fugitive monitoring system. The owner/operator may petition the Executive Secretary to discontinue the operation of this system.

(viii) Contained conveyance of acid plant effluent solutions.

Within 90 days of approval of these conditions, KUC submitted to the Division examples of the forms and records that will be used to comply with Conditions [**(f)**][~~(g)~~](iv) and (v) above. KUC may modify these forms and records after approval in accordance with R307-401-1.

(g) Secondary hoods and ventilation systems shall be installed on the following points to capture fugitive emissions into the secondary ventilation system or other approved pollution control devices:

(i) Concentrate Dryer Feed Chute
(ii) Slag and Matte Granulators
(iii) Smelting and Converting Furnaces
(iv) Slag Pot Filling Stations."

For the Refinery:

Comment # 88. *The KUC Refinery should have one limit on NOx that covers both boilers combined, as is done for petroleum refineries, the Gadsby Power Plant, and several small power plants. There should not be a separate limit for each boiler. {Comment made by Kennecott}*

Response: UDAQ agrees, and will revise the language as follows:

"(a) Emissions to the atmosphere from the indicated emission point shall not exceed the following rate:

Emission Point	[~~Pollutant~~]	Maximum Emission Rate
[~~Each of Two (Tankhouse) Boilers~~	~~NO_x~~	~~0.057 tons/day~~]
[The sum of Two (Tankhouse) Boilers		0.11 tons NO_X / day]"

IX.H.2.m. Pacificorp Gadsby Power Plant

Comment # 89a. *Subsection IX.H.2.m.(1) contains a daily plantwide NOx emission limit but no 12-month plantwide NOx emission limit. It is not clear to us why.*

Response: The annual limit was redundant. See the response to comment #79 for a more complete explanation.

Comment # 89b. *Also, the fourth sentence in subsection IX.H.2.m.(1) is redundant with the third sentence and should be deleted.*

Response: UDAQ agrees with this comment. The redundant sentence will be removed.

Comment # 89c. *Subsection IX.H.2.m.(2) contains a 12-month plantwide PM_{10} emission limit but no daily plantwide PM_{10} emission limit. It is not clear to us why.*

Response: The sources in question (three primary boilers and three combustion turbine/generators) burn nothing but natural gas, and as such have never been subject to an hourly PM_{10} limitation.

Comment # 89d. *Also, this subsection says that PM_{10} emissions from all boilers and turbines shall be determined by using emission factors from AP-42. It is not clear to us*

why PM_{10} stack tests should not be required, at least at a representative boiler and turbine, if not all boilers and turbines. {Comments made by the EPA}

Response: PM_{10} emission estimates for this source are based on AP-42 emission factors. This is reflected in the most recent AO for the source (DAQE-204-02, now incorporated into Title V permit #3500068001). The combustion of natural gas is well understood and documented, and little change in PM_{10} emissions are anticipated with regular maintenance. The pollutants of concern for this source are NO_X and CO, and stack testing is required to verify compliance with those limits.

IX.H.2.p. Springville City Corp.

Comment # 90. *Subsection IX.H.2.p.(2) says "The owner/operator shall calculate a new 12-month total by the twentieth day of each month using data from the previous 12 months." This conflicts with the General Requirement at IX.H.1.b, which says "By the last day of each month…" This subsection for Springville City Corp. should refer back to the General Requirements. {Comment made by the EPA}*

Response: UDAQ agrees with this comment. The source specific requirement will be changed as follows to agree with the general requirements:

> "(2)Compliance with the above limitations shall be determined by a continuous emissions monitoring system (CEM) meeting the requirements of R307-170. Daily NO_X emissions shall be calculated for each individual engine and summed into a monthly output. The monthly outputs shall be summed into a rolling 12-month total of NO_X in tons/year. The owner/operator shall calculate a new 12-month total by the [**last**][~~**twentieth**~~] day of each month using data from the previous 12 months. Records of emissions shall be kept for all periods when the plant is in operation."

IX.H.2.q. Tesoro West Coast

Comment # 91. *Subsection IX.H.2.q.(1) does not contain a 12-month limit on plantwide PM_{10} emissions. It is not clear to us why another refinery in IX.H.2. (Flying J) would have a 12-month limit but Tesoro would not. {Comment made by the EPA}*

Response: During the NSR review for DAQE-694-97, emission limits were reviewed. The annual limit for PM_{10} was equivalent to and redundant with the daily limit. In preparation for title V permits, redundant limits were removed, including the limit addressed here, and only the shorter-term limits were retained.

IX.H.2.r. West Valley Power Plant

Comment # 92. *A daily plantwide NOx limit is proposed, but no 12-month plantwide NOx limit. It is not clear to us why not. {Comment made by the EPA}*

Response: The annual limit was redundant. See the response to comment #79 for a more complete explanation.

SIP Section IX.H.3 – Establishment of Alternative Requirements:

Comment # 93. *On page 33, Section IX.H.3.a – These paragraphs generally track the language in Attachment B of White Paper No. 2, but omits the following: "Noncompliance with any provision established by this rule constitutes a violation of this rule." We think it is possible to change this language somewhat, but that it is necessary to make explicit that violation of a substitute provision constitutes a violation of the SIP. We suggest inserting the following language after the first two paragraphs on page 33: "Noncompliance with any provision established under this provision shall constitute a violation of the state implementation plan." {Comment made by the EPA}*

Response: UDAQ agrees, and will add the following sentence at the end of Subsection IX.H.3.a. "Noncompliance with an alternative requirement approved under this plan shall constitute a violation of the underlying SIP condition that was established in Subsections IX.H.1 or 2 of this plan.

Comment # 94. *On page 33, Section IX.H.3.b(1)g – UDAQ needs to add a question mark. {Comment made by the EPA}*

Response: UDAQ agrees, and will make the appropriate revision.

Comment # 95. *On page 34, Section IX.H.3. – The following language should be added (at the end of b. or somewhere in c.): "If the source fails to demonstrate that the proposed alternative is as or more stringent than the provision to be replaced, the executive secretary shall disapprove the proposed alternative." {Comment made by the EPA}*

Response: UDAQ agrees, and will make the appropriate revision.

Comment # 96. *On page 34, Section IX.H.3.c(1): Please change to read, "A source can request an equivalent emission limitation [or other requirement] by submitting ..." {Comment made by the EPA}*

Response: UDAQ agrees, and will make the appropriate revision.

Comment # 97. *On page 34, Section IX.H.3.c(1)(b): We think it would be more appropriate for the executive secretary, rather than the source, to issue a written determination regarding relative stringency. Perhaps this section should indicate that the source should provide a "[proposed] written determination" regarding stringency. {Comment made by the EPA}*

Response: UDAQ agrees, and will make the appropriate revision.

Comment # 98. *On page 35, Section IX.H.3.c(4): Consistent with White Paper No. 2, change to read, [At the time he or she transmits a source's part 70 application to EPA,] the executive secretary will notify EPA if a source has requested an [alternative requirement][~~equivalent emission limitation~~]. {Comment made by the EPA}*

Response: UDAQ agrees, and will revise the language as shown below:

"At the time the executive secretary transmits a source's part 70 application to EPA, the ~~The~~ executive secretary will notify EPA if a source has requested an equivalent emission limitation. The executive secretary will review the request, and if the executive secretary agrees that the source has demonstrated that the alternative requirement is as or more stringent that the existing SIP requirement, the executive secretary will submit the~~The~~ equivalence demonstration and supporting documentation ~~will be transmitted~~ to EPA ~~as soon as it is available and~~ in advance of draft permit issuance. If the executive secretary disapproves the requested changes, the disapproval notice will be submitted to EPA.

D. PM_{10} Emission Inventory:

Comment # 99. *The State says in its description of the emission inventory that only the 24-hour standard for PM_{10} was violated and that it is therefore the controlling standard; however, the emission inventory provided shows only annual emission rates. In its current format, EPA cannot determine what 24-hour emission rates were used in the modeling analysis to show attainment of the 24-hour standard.*

For the baseline episodes, we believe UDAQ should have developed 24-hour emission inventories based on actual 24-hour emission data for episode days and included it in the PM_{10} maintenance plan.

For the projection years, we are unable to determine what 24-hour emissions rates were used for the large point sources, or whether the 24-hour emission rates that appear in Section IX, Part H are consistent with the modeling analysis. This is also relevant to the commitments made by UDAQ in its letter to the EPA dated April 18, 2002.

For these reasons, we cannot currently determine the validity or adequacy of the maintenance demonstration.

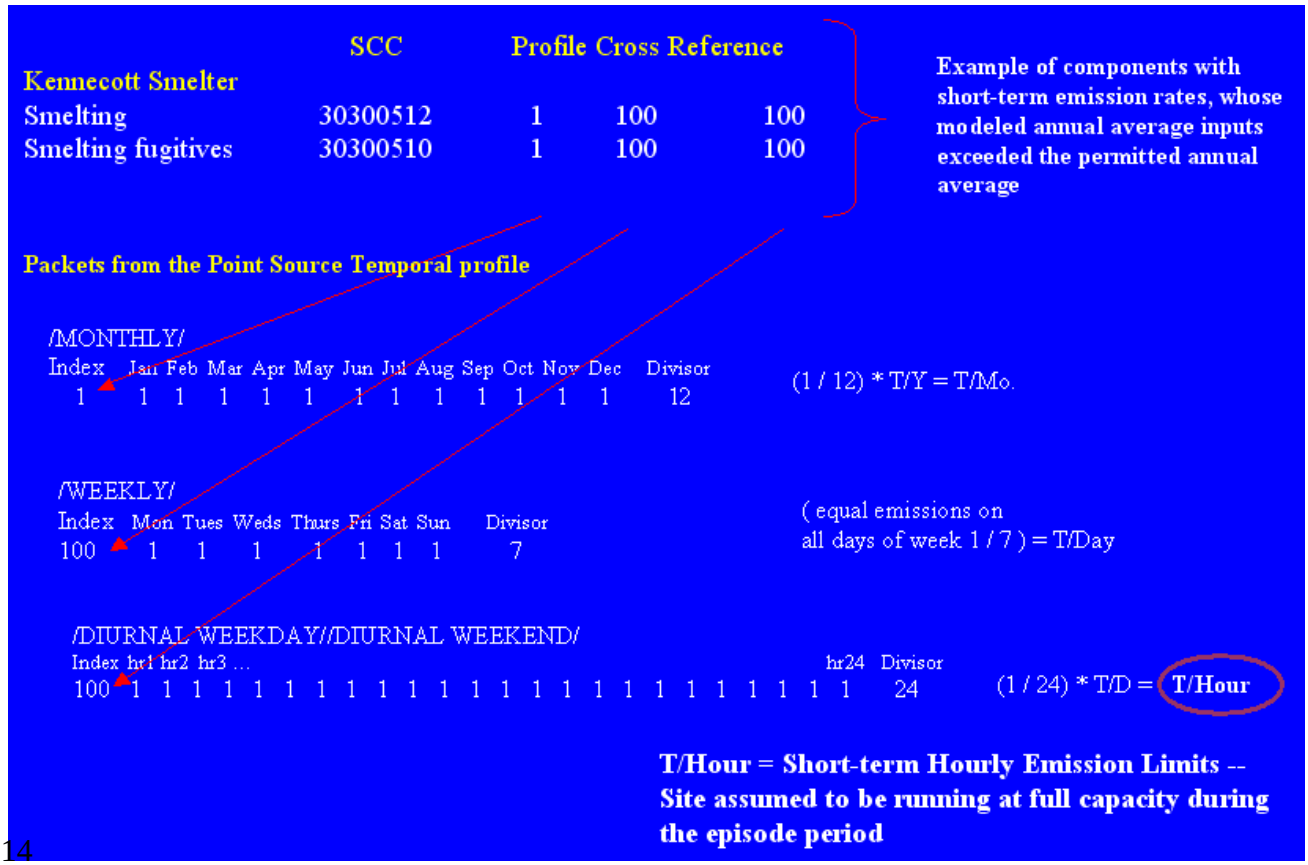
EPA is aware of the difficulty in obtaining this information from the SMOKE program which was initially developed for ozone modeling where individual stationary source impacts/emissions are of less importance. To help resolve this issue we will confer with EPA experts familiar with the SMOKE program, and UDAQ technical staff to try and find a simple way to extract this information from the UAM-Aero/SMOKE database. {Comment made by the EPA; # D2, includes also E3 and I4}

> ***Response*****:** UDAQ began using SMOKE in 2001 with the help of its contractor, Sonoma Technology, and had its own staff members go directly to MCNC, the model developer, for training. Regarding paragraph two, comment #99, UDAQ attempted to create a 24-hour emission inventory for point sources for the base year. This was done in consultation with both Sonoma Technology and MCNC. After a number of failed attempts to process the 24-hour data through SMOKE all concurred that the model, although it was supposed to have that capability, could not process a 24-hour data set. It was decided to use the standard method that uses an annual inventory and uses the model temporal profiles to create an episode-specific, daily inventory.
>
> UDAQ modeled sources that have limitations in their permits for individual components not to exceed certain thresholds on an hourly basis in a very conservative way. Limits that are expressed, typically, in lb/hr were multiplied by 24 to get lb/day and multiplied again by 365 to get lb/year. These were converted to ton/year and then processed through SMOKE. The graphic below, with the blue background, shows lines from the SMOKE profile and cross-reference files. These files are the means by which the program uses indices and SCC identifiers to convert the annual values into hourly rates.

The following are values reported out of SMOKE for the point source inventory for Salt Lake County, day 5, Tuesday, February 5, 2002 episode. Values are for the base year, 2002, and one future year episode, 2005. All future year values from 2005 to 2017 are equal since they represent allowable rather than actual levels and show the considerable increase in point source emissions by using allowable levels for future years.

T/Y	CO	NOX	VOC	SO4	PM_{10}	SOX
2002	3,315	6,382	1,544	33	3,583	2,202
2005	7,079	16,363	2,314	414	6,735	27,607
T/D	CO	NOX	VOC	SO4	PM_{10}	SOX
2002	9.2	17.9	4.2	0.1	9.9	5.5
2005	19.6	45.3	6.4	1.1	18.4	75.6

The following is a description of how SMOKE operates on *individual* sources, by SCC code, to change the emissions from an annual to an hourly average input for the air quality model.



SMOKE uses its own customizable report generator and at the time of model development at UDAQ the only reporting format available was for county-level emissions. This report format was created during the initial model development

with the help of MCNC and the county-level format is the one that we have continued to use. Technical staff at UDAQ will work with EPA, Region 8, and provide any of the data files requested to extract more detailed information from the SMOKE output files.

Comment # 100. *Emissions for PM_{10}, SO_2, NO_x, CO, and VOC from Kennecott's main stack for 2001 were double counted and thus projected emissions used in modeling for the Smelter and Refinery are too high. This error arose from the structure of the inventory; the TSD spreadsheet entitled "Potential to Emit, 2002 PM_{10} Modeling, Kennecott Smelter and Refinery, shows emissions from the Main Stack by two different components, "Copper Smelting (main stack)" with Fuel shown "n/a," and "Copper Smelting (main stack) with Fuel shown "natural gas." These are the same emissions. This gives the reader of the Technical Support Document the impression that the Smelter and Refinery emit more than their permits allow, and that is not true. These errors do not invalidate the modeling demonstration of maintenance of the PM_{10} NAAQS; in fact, they make the demonstration more conservative than it needs to be. Finally, several units are labeled as "not permitted," which is not the case. {Comment made by Kennecott}*

Response: UDAQ agrees, and acknowledges that the emissions from the main smelter stack at Kennecott were double-counted. This error, however, did not originate in the original 2001 emissions inventory submittal, but rather arose during manipulation of the inventory data in preparation for SIP modeling. The original submittal remains correct. As explained in Comment #87b, this error does not invalidate the conclusion that the PM_{10} standard will be maintained. The model demonstrates attainment and maintenance with the emissions that were included in the inventory.

Comment # 101. *(EPA # G1) The mobile source inventory portion of the Technical Support Document (TSD – "Supplement III-05 to the PM_{10} SIP (Maintenance Plan), Draft April 2005, Volume I of IX") notes that fugitive dust emissions from unpaved roads will be addressed in the area source inventory. However, section 1.a only addresses fugitive dust sources from paved road dust and does not include inventories from unpaved roads. Please include an emission inventory from unpaved roads in either the mobile source or area source inventory. If dust from unpaved roads is included in the transportation plans (developed by the MPOs) then the SIP must include them in the overall maintenance demonstration and as part of the motor vehicle emissions budget. These emissions must be included appropriately and consistently as either an area source or mobile source. {Comment made by the EPA}*

Response: Unpaved roads are included in the area source base year inventory (see Volume III 2.c.ii(1) and (2)). They are also projected (see Volume VIII pages 3.c.iii-8 and 3.c.iii-61).

E. PM_{10} Modeling:

Comment # 102. *In EPA's comments on the original modeling protocol we stated that the final maintenance plan should also address the annual NAAQS for PM_{10} and we suggested that an emissions-based analysis be used to demonstrate continued compliance with the standard. Annual concentrations at the North Salt Lake City monitor have been as high as 46 ug/m3 as recently as 2000 and that in the future the standard could be threatened at that location with a small increase in local emissions. Emissions inventory projections showing a downward trend in future year emissions near the monitor would be a reasonable method to demonstrate NAAQS maintenance. Annual concentrations at the other monitors in the Salt Lake City area are well below the annual standard and the current SIP plus additional reductions to address the 24-hour NAAQS should ensure compliance with the NAAQS at these locations. {Comment made by the EPA; # E1}*

Response: The annual standard has been addressed at Section IX.A.10.c(1)(d). It is explained therein that the control strategy developed as part of the 1991 PM_{10} SIP was based on the 24- hour NAAQS (not the annual) because that approach resulted in the more stringent control requirements. Many of the control strategies that were implemented to reduce the 24-hour PM_{10} concentrations also result in a reduction of the annual PM_{10} concentrations, particularly since the ambient data shows that the winter season is the period that has the greatest impact on the annual average. The data presented in Section IX.A.10.b(3) shows a downward trend in the annual arithmetic mean concentrations, thus corroborating the assumption made in the 1991 SIP. This is particularly important at the North Salt Lake monitor, where the values of the arithmetic mean concentrations are closest to the NAAQS (Figure IX.A.29). The downward trend in the data collected here from 1994 through 2004, representing the period of Post-SIP RACT control, may be described by a lime of best fit in which the slope is –0.577 ug/m3 per year. For a discussion as to why the trend over this period of time is relevant to the proposed demonstration of maintenance through 2017, see the response to Comment # 46.

Comment # 103. *In the UAM-Aero modeling, banked emissions were sited in core industrial areas in the county in which they were registered and included in the modeling in 2005 and subsequent years. In general, EPA believes that this is a reasonable approach. However, 12,567 tons/yr of Kennecott's banked SO_2 emissions were modeled as if they were emitted from Kennecott's 1200 foot stack. Under wintertime inversion conditions it is unlikely that pollutants emitted from a 1200 foot stack (above the persistent inversion) would be mixed to the surface and contribute to PM_{10} concentrations at the surface. These SO_2 emissions should be remodeled using the same method that UDEQ used for NOx and PM_{10}. {Comment made by the EPA; # E2}*

Response: These emission reduction credits were created by achieving emission rates that were lower than what was required by the 1991 PM_{10} SIP. The lower limits will be included in the maintenance plan (see response to comment # 87a).

The banked credits were modeled so as to preserve them in the baseline for the SIP (see response to comment #26). UDAQ is implementing the nonattainment area permitting program (R307-403) in accordance with EPA's interpretation of the rule in the May 5, 1995 approval of the program. Interpollutant trading between PM_{10}, NO_x and SO_2 is not allowed under this rule for new major sources or major modifications. It is unlikely that 13,000 tons of SO_2 emission reduction credits will be used in the nonattainment area. Therefore, it would not be appropriate to model these emissions throughout the nonattainment area. When the area is redesignated to attainment for PM_{10} and SO_2 the method that was used to estimate where banked emissions would be used will no longer be an issue because the PSD program will require modeling to demonstrate that any major source or major modification will not cause a violation of the NAAQS. If such modeling showed a violation of the NAAQS, the permit would not be issued.

Comment # 104. *On page 38, section IX.A.10.c(6), Says that the road dust inventory was discounted by 75% for purposes of demonstrating maintenance, but that it was not discounted for purposes of establishing motor vehicle emissions budgets. We question whether the 75% discount is appropriate. Utah must include a reasoned and valid rationale for this discount, including the air quality monitoring data and the original modeling results. Any technical reports by Sonoma Technologies, Inc. explaining this adjustment factor should be included in the TSD (at Tab 2.d.iii (3)(iii) page 17). {Comment made by the EPA; # B30, includes EPA comments # B31 and F3}*

Response: The inventories and budgets appropriately reflect the output of the EPA-approved mobile source model. The 75% reduction is a performance adjustment to the air dispersion model and is consistent with guidance provided in the documents identified below. These two EPA-authored documents provide valid rationale for this approach and will be included in the TSD. The second sentence in the first reference speaks to the lack of value that a comparison to monitored data would provide. Without the 75% reduction, the airshed model would significantly over-predict the primary PM component.

> "Conclusions
> Our understanding of factors affecting particle removal near ground level fugitive dust sources has improved greatly since the late 1990.s. ***Models are limited in their ability to fully account for near source removal of particles for a variety of physical and practical reasons and this limitation is a major reason for the disparity between modeled and monitored estimates of fugitive dust.*** The Transportable Fraction concept is consistent with research on windbreaks and has been at least partially quantified by the field work of DRI and MRI. In its current form, the TF concept does provide a useful way to account for this removal process in grid models by applying a variable adjustment across the U.S. ***This variable adjustment is an improvement upon the national divide-by-four adjustment that has been used for several years.*** However, this area of research is still emerging and other approaches or assumptions may be useful, especially when considering a specific air shed. Also, it will be prudent to review the TF methodology as new studies are published."

A Conceptual Model to Adjust Fugitive Dust Emissions to Account for Near Source Particle Removal in Grid Model Applications. pg. 10.
Thompson G. Pace, US EPA 8/22/2003
Bold italics not in original document

"ADJUSTMENTS FOR MODELING THE NET INVENTORY
Three source types in the NET inventory were given special treatment for this modeling exercise. First, we made an adjustment to $PM_{2.5}$ and PM_{10} emissions from certain fugitive source categories to remove what is termed the "non-transportable" component of these emissions. This component represents an approximation of the portion of fugitive emissions that settle out and are not dispersed more than a few meters from where they are emitted. ***Particulate emissions for the source categories listed in Table 1 were reduced by 75 percent to simulate the effects of this settling process.*** This adjustment was made because the emissions factors and activity data used in calculating fugitive emissions are designed to provide total emissions estimates whereas the nature of the processes which lead to such emissions (e.g., vehicles traveling on unpaved roads) result in much of the particle mass being deposited close to the location of the release.

Table 1. Source categories for which the "non-transportable" reduction factor was applied to $PM_{2.5}$ and PM_{10} emissions.

Source Category Description		SCC1
Unpaved Airstrips		22-75-08x-xxx
Paved Roads		22-94-xxx-xxx
Unpaved Roads		22-96-xxx-xxx
Construction/Wind Erosion		23-11-000-1xx
Agriculture Production-Crops		28-01-0xx-xxx
Agriculture Production-Fertilizer Application	2	8-01-7xx-xxx
Agriculture Production-Livestock		28-05-xxx-xxx

1. "x" is used to indicate that all applicable sub-SCCs are included."

Development of an Anthropogenic Emissions Inventory for Annual Nationwide Models-3/CMAQ Simulations of Ozone and Aerosols. pp. 3-4.
Norman Possiel, etal. (Date unknown).
Bold italics not in original document

Comment # 105. *Documentation of Modeled Emission Rates for Stationary Sources – For the projection years, we are unable to determine what 24-hour emissions rates were used for the large point sources, or whether the 24-hour emission rates that appear in Section IX, Part H are consistent with the modeling analysis. We cannot currently determine the validity or adequacy of the maintenance demonstration. (See related comment under "PM_{10} Emission Inventory.") {Comment made by the EPA; # E3}*

Response: See response to Comment # 99.

F. Technical Support Document – "Supplement III-05 to the PM_{10} SIP (Maintenance Plan), Draft April 2005":

Comment # 106. *(EPA # F1) Tab 2.d.iii (1)(a) PM_{10} Mobile Source Protocol Using MOBILE6.2, Overview, 2nd paragraph, the last sentence should be corrected to indicate PART5 was only used to model fugitive dust from paved roads and that MOBILE6.2 was used for tail pipe, brake and tire wear as noted in the maintenance plan. {Comment made by the EPA}*

> **Response:** As submitted, the PM_{10} Mobile Source Protocol Using MOBILE6.2, Overview, 2nd paragraph is correct. PART 5 was to estimate tail pipe, brake and tire wear, not MOBILE6.2. The inventories were prepared in accordance with the EPA-approved methodology in place in October 2003. Concurrently, MOBILE6 was used to estimate tailpipe emissions of CO, NOx, and VOC only. PART5 was used to estimate road dust, SO2 gas, direct tailpipe emissions of SO4, direct tailpipe emissions of particulates, brake wear and tire wear. Modeling was accomplished consistent with an EPA memo dated November 2002. At the time the Mobile Source inventories were prepared, MOBILE6 was not approved to assess emissions other than CO, NOx, and VOC.

Comment # 107. *Tab 2.d.iii (3)(iii) page 6, PART5 Model. This paragraph indicates that the February 1995 version of the PART5 model was used. AP-42 was updated in November 2003 to reflect more accurate emission factors. According to our Policy Guidance at http://www.epa.gov/otaq/models/mobile6/mobil6.2_letter.pdf, the 24-month grace period for using MOBILE6.2 and AP-42 for PM SIPs started May 14, 2004. The use of PART5 is satisfactory for now but we would like to make Utah aware that the use of AP-42 for fugitive dust and MOBILE6.2 for tailpipe/tire/brakes will soon be mandatory. {Comment made by the EPA; # F2}*

> **Response:** The future termination of PART5 and replacement with AP-42 fifth edition is noted. The use of PART5 in this plan is consistent with the approved EPA guidance.

G. Proposed Rule Revisions:

General Comments:

Comment # 108. *EPA is concerned with UDAQ separating existing federally enforceable rules into two categories: State only rules and rules that will apply in only nonattainment and maintenance areas that will continue to be included in the SIP. EPA is concerned that this is not consistent with CAA section 110(a)(1), which contains general maintenance requirements that apply to all areas of the state. Further, EPA argued that its own regulations and Part C of the CAA require the protection of areas with air clearer than the NAAQS. In addition, EPA believes that section 110(1) precludes it from approving a SIP revision that would interfere with attainment or any other requirement of the CAA. EPA indicates that UDAQ would need to provide a detailed demonstration pursuant to section 110(1) of the CAA. {Comment made by the EPA}*

Response: The rule revisions to the 200 series and 300 series rules were made to draw a distinction between the rules that apply in nonattainment and maintenance areas (300 series) and the rules that apply in attainment areas (200 series). This was done for several reasons.

1. The urban areas of the state are very different from the rural areas of the state. An pollution requirement that is appropriate for a rural area may not be appropriate for a densely populated area that is already experiencing air pollution problems. Conversely, stringent requirements that are needed to address urban pollution may be onerous and not needed in a rural area. By separating the two rule series we will have the ability to tailor each set of rules to meet the needs of the area. We have had problems in the past when Utah modified statewide rules to address rural concerns because there were concerns that the changes were not appropriate in the urban areas of the state.

2. UDAQ would like to focus the review of the PM_{10} maintenance plan on the 300 series rules. These rules will be submitted as part of the PM_{10} maintenance plan because they are an integral part of the control strategy for particulate matter. By revising the rules so that the 300 series rules can stand alone, there is no need to review or consider the 200 series rules as part of the PM_{10} maintenance plan. Provisions that were designed to provide greater flexibility in the rural areas of the state would not then be an issue when determining the effectiveness of the PM_{10} maintenance plan.

3. UDAQ believes that the 200 series rules could be removed from the SIP, as indicated in the rule proposal. However, UDAQ does not recommend doing this as part of the PM_{10} maintenance plan submittal. EPA has expressed some concerns about this approach, and UDAQ agrees that further discussion is needed before taking that step. Because the 300 series rules will now be independent, these discussions will focus, appropriately, on the air quality issues in the rural

areas of the state. Any action regarding withdrawal of the 200 series rules would be taken as a separate SIP action.

Comment # 109. *The revised rules exempt sources constructed before certain dates; in R307-201-3, the date is April 21, 1975. The original idea behind grandfathering was that eventually this equipment would be replaced by newer equipment with better controls; in fact, this exemption has granted them immortality. It creates an unfair economic advantage to sources that have been in business longer, and a perverse incentive to refrain from updating equipment in order to preserve the grandfathered status. It permits outdated equipment to pollute without any provision for review. Equipment that is grandfathered should lose that status when sold or relocated; commonly in Utah, a new portable aggregate company can obtain old equipment that is permitted with grandfathered status. Other states have more stringent requirements than Utah, and thus outdated equipment from those states are marketed in Utah. A census of grandfathered equipment should be compiled and the only change allowed for any of that equipment should be retirement. No permits should be written that add grandfathered equipment; grandfathered equipment should not be added to any site. R307-302-3 allows residents whose solid fuel burning device is their sole source of heat to use that device during no-burn periods only if previously registered, and provides "No new registrations will be accepted in these areas." Similar language should be applied to all grandfathered provisions. Regarding R307-205, we provided comments criticizing grandfathering when this rule was revised in January 1999; now those sources are 6 years older and no closer to retirement. At that time we suggested that the 40% opacity limit be reduced to 30% after some interval, and then later to 20%. {Comment made by Wasatch Clean Air Coalition}*

Response: Sources are required to undergo a New Source Review, and lose grandfathered status, when they modify their operations. A source is no longer grandfathered if it moves to another location, and does not regain grandfathered status if it returns to the original location. A grandfathered source must meet specific emission limits required in a SIP or maintenance plan. Any equipment brought into Utah from another state is not grandfathered at the new location in Utah, and is subject to New Source Review rules. Generally, our New Source Review is more stringent than New Source Performance Standards.

Alternative (RACM) Requirements:

Comment # 110. *R307-305–4 "Emission standards for sources located in PM_{10} nonattainment and maintenance areas: Particulate emission limitations and operating parameters" - UDAQ eliminates language stating that existing sources shall use RACM to the extent necessary to ensure attainment and maintenance of the NAAQS. The language should be modified to say that the executive secretary will establish limitations to ensure attainment and maintenance of the NAAQS. {Comment made by the EPA}*

Response: The SIP and maintenance plan demonstrate attainment and maintenance of the standard, and all of the control strategies that were relied on in the SIP are already enforceable (Part H, R307 rules, approval orders and NSR requirements, etc.). It is not necessary to state that the executive secretary will establish these emission limitations because the limits have already been established as part of the PM_{10} SIP and maintenance plan. The purpose statement in R307-305-1 states that the emission standards and work practices in the rule were established to meet the RACM requirement in section 189(a)(1)(C) of the Act. R307-305-4 requires sources to comply with Part H of the PM_{10} SIP. R307-305-3 requires sources to meet visible emission standards.

If the area does not maintain the standard in the future, it is not reasonable to expect that the executive secretary could simply establish further emission limits to address the problem as implied by the suggested language. Instead, the plan would first rely upon contingency measures as outlined in section IX.A.10.c(10) of the plan. If the problem persisted, then a new SIP may be required to determine the source of the problem, and the best solution.

Comment # 111. *Currently, R307-305-2 provides that "Specific limitations for installations within a source listed in the SIP which are not specified will be set by order of the Board. Specific limitations for installations within a source may be adjusted by order of the Board provided the adjustment does not adversely affecting achieving the applicable NAAQS." This provision has been used judiciously by the Board to ensure that detailed, specific limitations in the SIP do no result in unnecessary limitations on a source's ability to implement changes; often, those changes result in modest changes in emissions or operating limitations that quite clearly will not adversely affect air quality. The new R307-305-2 removes the possibility, and provides only that "Specific limitations will be set by the executive secretary, through an approval order issued under R307-401, for installations within a source that do not have limitations specified in the state implementation plan." It is imperative that the federal health standards be protected from adverse impacts of modifications or new construction at existing air pollution sources. But we want to ensure that these rule changes do not impose a limitation on sources to make changes through UDAQ's permitting rules without going through the entire SIP revision process. Prohibiting modifications to a SIP source without undergoing a complete SIP revision while allowing modifications at non-SIP sources through the usual permitting process, would raise fundamental issues of fairness and equal protection. {Comment made by UIENC and endorsed by Kennecott}*

Response: Part H of the SIP has been revised to include only sources or emission units that are large enough to individually affect the attainment and maintenance demonstration. Changes at these sources that increase emissions or change the character of emissions would need to be verified through the SIP process to ensure that the area continues to maintain the PM_{10} standard. Section H.3 of the SIP establishes a process that a source could use to establish alternative emission limitations. As described in that section, a source can make a demonstration that the alternative limitation is as stringent or is more stringent than the SIP

limitation. This process will allow the sources in Part H of the SIP to make necessary changes.

Sources that are not listed in Part H of the SIP affect the attainment and maintenance demonstration as a group, but would not affect the demonstration on an individual basis. Growth factors are applied to stationary source emissions in the projected emission inventories to account for expected changes to the overall category. A SIP revision is not needed to address individual changes because changes to the category are already included in the demonstration.

Comment # 112. *It appears that Geneva Nitrogen, as well as other sources included in Part H, will never be able to make changes in our emission limits. This is not fair, because non-SIP sources can make changes. {Comment made by Geneva Nitrogen}*

Response: See the response to Comment #111.

Excess Emissions:

Comment # 113. *R307-201-7 (assume this means R307-201-3 (7)) "General emission standards: Excess emissions" - EPA disagrees with UDAQ interpretation of excess emissions during startup, shutdown, and malfunction, and stated that these provisions should be removed from this rule and addressed in a separate excess emissions rule. {Comment made by the EPA}*

Response: See response to comment # 143g.

Comment # 114. *(EPA # I7) This is also relevant to the commitments made by UDAQ in its letter to the EPA dated April 18, 2002. On March 2, 2005 we received a revised draft of the excess emissions and reporting rule from UDAQ. We will provide comments on the rule to UDAQ shortly, and we are hopeful that UDAQ will address any concerns we express. As we indicate elsewhere in these comments, we believe appropriate revisions to Utah's unavoidable breakdown rule should form the basis in the Utah SIP for addressing excess emissions during startup, shutdown, or malfunction. Accordingly, other provisions that address excess emissions during startup, shutdown, and malfunction should be removed. {Comment made by the EPA}*

Response: As mentioned above, UDAQ has re-proposed a draft of the Excess Emissions rule and submitted it to the EPA on March 3, 2005. UDAQ is committed to continue this process.

Opacity:

Comment # 115. *KUCC has serious objection which they have repeatedly expressed concerning this use of a modified form of Method 9. In summary, any modified form of Method 9 used as an enforcement standard for intermittent or mobile sources, as opposed to a trigger for further action, is not a verifiable method, is not an approved method, and imposes a standard more restrictive than corresponding federal regulations and, according to Utah Code 19-2-106, cannot be maintained without a written finding after public comment and hearing and based on evidence in the record, that corresponding federal regulations are not adequate to protect public health and the environment of the state.*

For the reasons given regarding opacity observations for Intermittent and mobile sources (see discussion at "Section IX. Part H – Emission Limits and Operating Practices" General Requirements - Opacity), the following items should be deleted: the second sentence of proposed R307-201-3(9), the second sentence of R307-206-5(1), the second sentence of proposed R307-306-5(1), the third sentence of R307-309-4, and the second sentence of proposed R307-309-5(3). {Comment made by Kennecott}

> **Response:** The provision of R307-201 governing the method to enforce opacity observers for mobile and intermittent sources has been in effect for over 25 years. UDAQ added this provision to the other rules to clarify that this provision of R307-201 would continue to apply, because UDAQ separated its rules into two categories, State only rules and rules that will apply in only nonattainment and maintenance areas. UDAQ staff recommends not deleting these provisions from the rules. UDAQ's Compliance staff have indicated that these provisions are needed. It is necessary to have a method to enforce opacity limits for mobile and intermittent sources and EPA Method 9 is not intended to measure opacity limits for mobile and intermittent sources. Utah Code 19-2-106 restricts UDAQ from developing a standard more restrictive than the corresponding federal regulation; however, there is no corresponding federal regulation for measuring opacity emissions limits for mobile and intermittent sources. Therefore, UDAQ developed a method to measure compliance of opacity emission limits for mobile and intermittent sources consistent with EPA Method 9.

Comment # 116. *IX.H.2.k(1)(c) specifies opacity limits for the boiler stacks, except as provided in R307-201-1(7). [NOTE: Correct cite is R307-201-3(7).] The proposed rule revisions limit applicability of R307-201 to the attainment areas of the state and thus do not apply to Kennecott. The exception to opacity limits is needed to recognize the impossibility of meeting strict 6-minute opacity limits during initial warm-up, soot-blowing, etc. That language should be added to R307-305, the new rule that applies to nonattainment and maintenance areas. {Comment made by Kennecott}*

Response: UDAQ added this exception to R307-305-3(4).

"(4) Visible emissions may exceed the opacity standards for short time periods as the result of initial warm-up, soot blowing, cleaning of grates, building of boiler fires, cooling, etc., caused by start-up or shutdown of a facility, installation or operation, or unavoidable combustion irregularities that do not exceed three minutes in length, provided that the executive secretary does not find that inadequate control technology has been applied. Unavoidable combustion irregularities that exceed three minutes in length must be addressed in accordance with R307-107. The owner or operator shall minimize visible and non-visible emissions during start-up or shutdown of a facility, installation, or operation through the use of adequate control technology and proper procedures."

Comment # 117. *Presently, R307-201 addresses opacity limits statewide and R307-305 addresses opacity limits in nonattainment areas. UIENC endorses the amendments that clarify the applicability of these two rules, but these amendments have the unintended effect of eliminating the exceptions to opacity restrictions that currently apply in the nonattainment areas, and results in a significantly more stringent opacity limit than currently exists. We assume this change is an unintended consequence of untangling R307-201 and R307-305; if it is intended, then wee request that UDAQ re-notice the proposal and provide clear notice of the change in stringency and a rational for doing so, as well as estimates of the effects on industry, including costs. {Comment made by UIENC}*

Response: See response to comment # 116.

Comment # 118. *Please add a provision to R307-201, 206, 207, 302, 305, 306, 309 and other rules with visible opacity emission limits to allow alternatives to EPA Method 9 (40 CFR Part 60, Appendix A). Any alternative would be approved by the Executive Secretary on a case-by-case basis. One such alternative could be the Digital Opacity Compliance System (DOCS). Requirement for such a system could be included in Approval Orders and/or Title V permits. Benefits of such systems were described by Rick Sprott in a recent letter to EPA; he noted that a digital image could record numerous individual emissions points within a large source and could be an economical method for frequent monitoring at some locations. {Comment made by Hill Air Force Base}*

Response: It is premature to add Digital Opacity Compliance System (DOCS) as an alternative to EPA Method 9. UDAQ agrees that DOCS can be beneficial; and will continue to allow DOCS as an option for periodic monitoring through operating permits. UDAQ will reconsider adding such a provisions to its rules, if DOCS receive federal approval.

Fugitive Dust:

Comment # 119. *R307-205 "General emission: Fugitive Emissions and Fugitive Dust" - EPA is concerned with the removal of provisions of R307-205 and has asked UDAQ to show that these changes will not interfere with attainment, maintenance, or other requirements of CAA. {Comment made by the EPA}*

Response: The provisions removed from R307-205 fall into three categories: 1. UDAQ moved the definition of "Road" to the general definitions in R307-101-2 rather than repeating the definition in multiple rules. 2. Provisions that apply to nonattainment and maintenance areas are addressed in R307-309, and do not need to be included in this rule that applies only in attainment areas for PM. Some outdated requirements to submit a fugitive dust plan by 1981 were also removed because those plans were submitted, as required, almost 25 years ago. 3. The only remaining provision that was removed requires an NOI for any new unpaved road with a traffic volume of 150 trips per day. This rule has been in place for a long time, and discussions with UDAQ staff indicate that application of the rule focused on industrial roads such as haul roads. Since this rule was first put in place, UDAQ has increased fugitive dust requirements and the regulation of haul roads through the approval order process for new or modified sources. This has been done under the authority of R307-401, not this rule. Removing the unpaved road provision in this rule will not have any affect on air quality because the regulation of fugitive dust from haul roads has essentially been taken over by the approval order process.

Comment # 120. *R307-309 Nonattainment and Maintenance Areas for PM_{10}: Fugitive Emissions and Fugitive Dust. - Utah submitted a SIP revision on September 20, 1999 that created a new R307-309. EPA had several concerns with provisions in R307-309, and outlined them in a letter to UDAQ dated May 13, 2003. EPA still has several unresolved concerns with provisions of this rule.*

a) *R307-309-3: This provision exempts sources from meeting opacity limits when a specific wind speed is exceeded. The following are EPA's concerns with this provision:*

- *EPA is concerned that this exemption does not have any relationship to or consideration of meeting NAAQS and grants inappropriate director discretion.*
- *UDAQ modified the wind speed from 25 mph to 30 mph, to match the Nation Events Policy (NEP). However, EPA does not believe that the NEP addresses a specific wind speed for high wind events.*
- *EPA is concerned that high-wind exemptions are problematic.*

Response: UDAQ modified the wind speed from 25 mph to 30 mph, to match the Utah Nature Events Action Plan (NEAP). The NEAP helps to diagnose when an event is natural and not a manmade exceedance of the NAAQS.

b) *EPA has concerns with the director's discretion provisions throughout R307-309.*

Response: See response to comment 143 (a).

c) *EPA is concerned with R307-309 directing sources to "minimize" fugitive dust, because this requirement is not practical to enforce.*

Response: The requirement to minimize fugitive dust is enforceable. First, all sources of fugitive dust are subject to a numeric opacity limit. This opacity limit provides an enforcement baseline. In addition, any person owning or operating a source of fugitive dust must submit a fugitive dust plan to the executive secretary. A fugitive dust plan requires the owner and operator of a source to minimize fugitive dust to the maximum extend possible. Because these fugitive dust plans are source specific, it would be illegal to list them in R307-309 (Utah Code 63-46a-3 (2)(c)). Finally, the Utah Court of Appeals upheld an enforcement action that cited a trucking company for failing to minimizing fugitive dust.

Second, petitioner argues that "[t]he Utah Air Quality Board abused its discretion in upholding a citation for fugitive dust based on a single, inadequate reading." Petitioner maintains that because the DAQ environmental scientists failed to take six opacity readings for the Ralph Smith truck, they failed to comply with the DAQ rules. However, as respondent points out, petitioner was cited for failing to minimize fugitive dust under Rule 307-12-3 (3.b) (1) [1]of the Utah Administrative Code, not for violating the opacity standards for fugitive emissions under Rule 307-12-2 of the Utah Administrative Code. Because opacity readings are not required under Rule 307-12-3 (3.b) (1), that evidence was relevant only to support the DAQ's claim that petitioner failed to minimize fugitive dust. Accordingly, this argument fails.[2]

d) *UDAQ deleted sections R307-309-5 and 6: "Storage, Hauling and Handling of Aggregate Materials and Construction and Demolition Activities." EPA asked UDAQ to demonstrate that deletion of these provisions will not interfere with CAA requirements.*

Response: UDAQ did not intend to delete these standards. UDAQ will restore them as shown:

"<u>R307-309-7. Storage, Hauling and Handling of Aggregate Materials</u>.

<u>Any person owning, operating or maintaining a new or existing material storage, handling or hauling operation shall prevent, to the maximum extent possible, material from being deposited onto any paved road other than a designated deposit site. Any such person who deposits materials that may create fugitive dust on a public or private paved road shall clean the road promptly.</u>"

<u>"R307-309-8. Construction and Demolition Activities."</u>

[1] R307-12 is now R307-309.

[2] Ralph Smith Company, Inc. v. Utah Air Quality Board, 990840-CA P.2 (Utah Ct. App. 2000)

Any person engaging in clearing or leveling of land with an area of one-quarter acre or more, earthmoving, excavating, construction, demolition, or moving trucks or construction equipment over cleared land or access haul roads shall prevent, to the maximum extent possible, material from being deposited onto any paved road other than a designated deposit site. Any such person who deposits materials that may create fugitive dust on a public or private paved road shall clean the road promptly.

e) *Deleted sections R307-309-7 (2)(a) and (b) "Unpaved roads" and R307-309-3(3) "Definition of road." EPA has asked UDAQ to demonstrate that these changes will not interfere with CAA requirements. {Comment made by the EPA}*

Response: UDAQ moved the definition of Road to the general definitions in 307-101-2 rather than repeating the definition in multiple rules. UDAQ removed provisions in R307-309-7 that require control measures for unpaved roads based on the number of vehicle trips per day. These requirements were established as part of the Total Suspended Particulate (TSP) plan in 1982. This rule has been in place for a long time, and discussions with UDAQ staff indicate that the application of the rule focused on industrial roads such as haul roads. In addition, the area that was regulated was much smaller. The nonattainment area for TSP was based on the actual area of nonattainment rather than the county boundary, and this actual area of nonattainment corresponded to the urban area along the Wasatch Front. When the nonattainment area for PM_{10} was designated, the entire county became nonattainment, and this rule technically applied in the rural areas of the nonattainment counties. However, with the shift to PM_{10}, it became apparent that wintertime temperature inversions were the real problem in Utah, and unpaved roads are not a significant contributor to PM_{10} during inversions. UDAQ's research with the local MPO's has indicated that currently there are few unpaved roads in the populated areas of the nonattainment areas of Utah (the "actual area of nonattainment" for TSP). In addition, industrial source within the nonattainment areas with unpaved roads such as haul roads are subject to permitting and BACT requirements, as well as the fugitive dust plan requirements in this rule. Deleting this provision will have no effect on air quality regulation in Utah because the original intent and application of this rule has been taken over by the approval order process, or has been made moot because of the increasing urbanization along the Wasatch Front (there are very few unpaved roads remaining in the urban area).

Comment # 121. *Any fugitive dust control plan that includes a limit on activities based on wind speed being below a threshold (blasting, for example) should require the measurement and recording of wind speed by a hand-held anemometer or equivalent device. Sources should be required to document compliance with wind speed conditions when such a condition is included in a rule, an approval order, or a fugitive dust control plan. {Comment made by Wasatch Clean Air Coalition}*

Response: UDAQ's focus is on ensuring that any source diligently carries out the components of its dust control plan in all circumstances, including during high wind events. A source that is not carrying out activities to minimize fugitive dust will be cited for that failure, whatever the wind speed may be.

Offset Requirements:

Comment # 122. *R307-421 "Offset" - EPA warned the state that the offset provisions are not a substitute for ambient impact analyses. In addition, EPA believes that it could not approve this rule because it refers to banking and offset provisions in R307-403 that are of concern. {Comment made by the EPA}*

Response: The proposed rule R307-421 is not a substitute for an ambient impact analysis and does not replace any existing requirements for attainment areas. The rule is intended to supplement the existing requirement to address a gap in the modeling capabilities for secondary pollutants. R307-405 requires ambient impact and increment analysis in accordance with EPA's PSD permitting program. R307-410 requires a modeling analysis for minor sources that meet a certain size threshold. Utah uses EPA-approved models as required by the PSD rules.

Utah does not intend to submit R307-421 to EPA as part of the federal SIP at this time because we believe that the federal PSD permitting program meets all of the federal requirements for major new source review. UDAQ intends to revise R307-403 when EPA finalizes federal rules for permitting new sources under the 8-hour ozone standard and the $PM_{2.5}$ standard. UDAQ will address EPA's concerns about the banking and offset provisions as part of that rulemaking. UDAQ believes the current offset program is effective and can continue to be effective as a state-only rule.

Comment # 123. *Is this rule (R307-421) to be federally enforceable or not? Should all rules include that information? It is confusing as it is now. {Comment made by Wasatch Clean Air Coalition}*

Response: UDAQ does not intend to submit the new rule R307-421 to EPA as part of Utah's State Implementation Plan. Utah does not include information in our rules regarding whether the rules are federally enforceable because it takes action by EPA to include the rules or plans in the federally-approved SIP. This action may occur quickly, but often takes many years. EPA maintains a copy of the federally-approved SIP for Utah on their web page (http://www.epa.gov/region8/air/sip.html). Unfortunately, it is difficult to compare EPA's version to Utah's version because EPA's version is still using the old numbering system that was replaced in 1998.

Comment # 124. *We applaud continuing the present nonattainment offset requirement, but are concerned about not making it federally-enforceable. {Comment made by Sierra Club, Utah Chapter}*

Response: The rule R307-421 will be fully enforceable as a state requirement. Utah does not plan to submit this rule to EPA as part of the PM_{10} SIP because it is not a federal requirement. However, we do feel that this rule fills a gap in the federal permitting requirements for attainment areas that is important for the urban area along the Wasatch Front. By leaving the rule as a state-only rule, Utah maintains greater flexibility to modify the rule as needed to meet changing circumstances. Once rules are included in the federal SIP it can be extremely difficult to make even minor changes to improve the effectiveness of the rule. Utah used the same approach for a similar rule to address VOC and NOx emissions in the ozone maintenance area. Utah has implemented that rule successfully as a state-only rule since the area was redesignated in 1997.

Comment # 125. *Regarding R307-421-2(2), do the triggers of 1.0 and 3.0 micrograms/cubic meter mean that the offset provisions in R307-421-3 do not apply if the modeled impact is less than 1 and 3? {Comment made by Wasatch Clean Air Coalition}*

Response: The commenter is correct that a source located outside of Salt Lake County or Utah County with a modeled impact of less that 1 µg/m3 (annual) or 3 µg/m3 (24-hour) would not be considered to impact the maintenance area, and would therefore not be subject to R307-421.

Comment # 126. *The criteria in R307-421-2(2) are too restrictive. We believe that the modeling significance levels for PSD permits are adequate to protect the Class II increments in areas that attain the standards. These increments are but a fraction of the standards; they are conservative. {Comment made by Graymont Western US Inc.}*

Response: The modeling significance levels for PSD that are suggested are designed to protect the SO_2 increment and the NO_2 increment rather than the PM_{10} NAAQS. For example, NO_2 is only evaluated on an annual basis because there is not a 24-hour standard for NO_2. We are more concerned about the 24-hour impact because NO_2 is converted to nitrates during wintertime temperature inversions, and the PM_{10} standard is a 24-hour standard.

The concentration levels that are used to determine whether a source that is located outside of the nonattainment area would impact the nonattainment area have been effective at managing emissions growth just outside of the nonattainment area. For example, sources located in southern Davis County can have a significant impact on the Salt Lake County nonattainment area. The

concentration levels that are currently used to evaluate the impact on PM_{10} nonattainment areas are more appropriate in this case.

Comment # 127. *To avoid a severe economic impact to the state if adequate credits do not exist in the county where a small impact is predicted by modeling, R307-421-4(3) should be modified to allow trading emission offsets between pollutants. {Comment made by Graymont Western US Inc.}*

Response: R307-421 is needed to address the secondary formation of sulfates and nitrates from SO_2 and NO_x. The technical analysis for the PM_{10} maintenance plan does not provide an adequate basis for establishing conversion ratios for these pollutants that would be needed to establish the impact of one ton of NO_x emissions versus one ton of SO_2 emissions. For example, if one of the pollutants has a greater impact than the other on PM_{10} levels, the trade would need to be weighted so that the emission offset provided the expected benefit. In the future, UDAQ may have the technical tools to establish the appropriate trading ratio. At this point in time, however, the technical analysis for this plan does not provide an adequate basis for establishing the ratio.

Major sources and major modifications in the current PM_{10} nonattainment area are not allowed to trade between SO_2 and NO_x. While this has been a deterrent for some projects, sources have been able to obtain emission offsets for major projects in the current nonattainment area. As the market for emission offsets becomes more competitive, existing sources in the area have an increased incentive to reduce emissions and sell the credits.

UDAQ has already considered the economic impact of this rule, and has taken steps to reduce the impact on smaller sources. The cutoff level to require offsets will be determined for each pollutant individually, rather than adding together emissions of PM_{10}, NO_x and SO_2 as is currently required in the PM_{10} nonattainment area. This will focus the rule on larger sources that would have the greatest impact on PM10 levels in the maintenance area.

Rule-Specific Comments:

R307-101

Comment # 128. *R307-101. "Definitions" - Baseline date: EPA stated that there is no provision in the Clean Air Act for using a different date for the major source baseline date. CAA §169.4 specifies the January 6, 1975 date. {Comment made by the EPA}*

Response: The Clean Air Act establishes requirements for new sources in nonattainment areas in Section 173 of the Act, and requirements for new sources in attainment areas (PSD) in section 165 of the Act. However, the Act does not

specifically address the transition of areas from nonattainment into the PSD program. UDAQ does not believe that the statute intended for increment consumption or expansion to occur in an area while the area was not attaining the standard. Presumably, the majority of emission reductions that occurred at major sources in nonattainment areas will be reductions required to provide for attainment in the area. To the extent that such decreases are associated with a construction activity, if we require that these be counted as part of the increment, they would actually expand increment. This would make the increment analysis in these areas a hollow requirement, because the NAAQS would be exceeded well before the increment level was reached. UDAQ believes that it is unreasonable to interpret the Clean Air Act to require such a hollow requirement. A much more reasonable interpretation is to use the date that an area is redesignated to attainment as the new starting point, and then use the PSD program as part of the overall strategy to maintain the now "clean air" in those areas.

Comment # 129. *R307-101. "Definitions" - EPA Method 9: EPA requested UDAQ to provide a more detailed description about Method 9. {Comment made by the EPA}*

Response: The term "Method 9" is used throughout Utah's rules and refers to the federal reference test method. All of the reference test methods in 40 CFR Part 60 are incorporated by reference as part of the NSPS standards in R307-210. UDAQ staff believes that it is more straightforward to give the complete citation to the CFR in the definition section rather than repeating this reference in every rule. The detail of the reference method does not need to be included, because it is in the CFR. UDAQ staff recommend some slight modifications to the definition to clarify the CFR reference, but do not believe that the full test method needs to be repeated in our rules.

R307-165

Comment # 130. *R307-165-2 "Emission testing" - EPA is concerned with number of aspects of this rule. First, EPA believes that requiring emission testing only once every five years is outdated and not consistent with 40 CFR 51.212, which requires that the SIP specify periodic testing requirements. Second, EPA is concerned with UDAQ elimination of provisions to require initial testing within six months of startup. EPA argued that six months is a well-accepted timeframe for startup testing; and therefore, it should be established in the SIP. Finally, EPA is concerned with the last sentence in R307-165-2 and wants it removed. This provision allows the Board discretion to grant exceptions to mandatory testing if consistent with R307. {Comment made by the EPA}*

Response: The requirement to do a stack test at least once every 5 years in R307-165 is a general requirement that applies to all stacks with an established emission limitation. The 5-year schedule is adequate to meet the requirement in Utah's operating permit program to show compliance with all emission limitations because at least one test is required during the 5-year permit term. The

requirement in R307-165 provides a testing requirement for those emission units that do not have a testing schedule established in their AO or in applicable requirements such as NSPS limits. The testing schedule for most emission units is established in either their AO, or in the SIP. In many cases, stack testing is required more frequently (1 year or 3 year schedule) or a CEM is required. UDAQ staff determine the frequency on a case-by-case basis after considering the size of the emission unit, the need to verify the effectiveness of pollution controls, and the location of the source. For example, emissions from a natural gas turbine do not vary significantly over time and post process emission controls are not used. In this case, a stack test every 5-years will provide a periodic check, but emissions are not expected to change significantly over time.

UDAQ staff recommended removing the requirement to do an initial stack test within 6 months because the AO for the source is the more appropriate place to establish this requirement. For example, in the past, UDAQ established emission limits in AO's with a requirement to test the emission unit if directed by the Executive Secretary. The idea was that these units would be tested if inspectors had reason to believe that they were not operating as described in the NOI, but otherwise there was little value in doing regular stack tests. UDAQ's current practice is to establish emission limits only for those sources where on-going testing is important. UDAQ still has general authority to require testing or to require more information from the source if needed. Therefore, UDAQ believes that the initial testing requirements in R307-165 do not conflict with the requirements developed in a case-by-case review of emission units. Because EPA believes that it is important to establish a general, underlying requirement, UDAQ staff agree that the requirement to do a stack test within 6 months of start-up should be retained.

EPA also expressed concerns about the provision in R307-165 that allows the Board to grant exceptions to the mandatory testing requirements of R307-165-2 that are consistent with the purposes of R307. UDAQ disagrees with EPA's contention that no discretion can be allowed in the process. There are circumstances that will prevent a stack test from being completed on schedule, such as equipment breakdowns, or if the facility is not producing the right product mix to get a meaningful result from the test. In some cases a source may need time to develop the testing protocol for an innovative process. The rule requires that "any exception must be consistent with the purposes of R307" and this requirement prevents the exception process from being used just for the convenience of the source.

R307-201

Comment # 131. *R307-201-3(7) says Visible emissions...shall not be deemed in violation provided... This use of "violation" is problematic. Some alternate language should be sought that avoids the controversy among different interpretations of the word violation. {Comment made by Wasatch Clean Air Coalition}*

Response: UDAQ agrees, and has revised the language in R307-201-3(7) as follows to avoid using the word violation:

"Visible emissions [may]exceed[~~ing~~] the opacity standards for short time periods as the result of initial warm-up, soot blowing, cleaning of grates, building of boiler fires, cooling, etc., caused by start-up or shutdown of a facility, installation or operation, or unavoidable combustion irregularities that do not exceed three minutes in length,[~~shall not be deemed in violation~~] provided that the executive secretary [does not]find[~~s~~] that [in]adequate control technology has been applied. Unavoidable combustion irregularities that exceed three minutes in length must be addressed in accordance with R307-107. The owner or operator shall minimize visible and non-visible emissions during start-up or shutdown of a facility, installation, or operation through the use of adequate control technology and proper procedures."

Comment # 132. *R307-201-3 (assume this means R307-201-3(5))" General emission standards: visible emissions standards," and R307-305 –3(3) "Emission standards for sources located in PM_{10} nonattainment and maintenance areas: Visible Emissions Standards" - EPA stated that opacity standards for diesel engines must exempt locomotives, because states are preempted (or not allowed) to set opacity standards for locomotive engines. EPA suggested the following language for these provisions: "Emissions from diesel engines, expect locomotives, manufactured…" {Comment made by the EPA}*

Response: UDAQ agrees, and will make the suggested revision in R307-201-2(5) and R307-305-3(3) as follows:

"R307-201-2(5) Emissions from diesel engines[, except locomotives,] manufactured after January 1, 1973, shall be of a shade or density no darker than 20% opacity, except for starting motion no farther than 100 yards or for stationary operation not exceeding three minutes in any hour."

"R307-305-3(3)Emissions from diesel engines[, except locomotives,] shall be of a shade or density no darker than 20% opacity, except for starting motion no farther than 100 yards or for stationary operation not exceeding three minutes in any hour."

R307-207

Comment # 133. *R307-207 "General emission: Residential Fireplaces and Stoves" - EPA wants to know if the omission of "east of State Route 68" was an error. {Comment made by the EPA}*

Response: UDAQ did not intend to remove this provision. The rule has been revised as follows:

"R307-207 applies statewide except for the following areas: all regions of Utah County north of the southernmost border of Payson City[and east of State Route 68], all of Salt Lake County, all of Davis County, and in all regions of Weber County west of the Wasatch Mountain Range."

R307-302

Comment # 134. *R307-302-3(3) "Davis, Salt Lake, Utah, Weber Counties: Residential Fireplaces and Stoves: PM_{10} contingency plan." - EPA stated it has never incorporated Utah's PM_{10} contingency measure into Utah's SIP and want to know if UDAQ is requesting incorporation of the PM_{10} contingency measures by adopting this rule. See also discussion on page 2, section IX.A.10.a(2), in the last 3 paragraphs UDAQ refers to the withdrawal of the PM_{10} contingency plans that UDAQ had submitted to EPA on July 31, 1994 and July 17, 1995. {Comment made by the EPA}*

Response: Utah withdrew submittal of the previous PM_{10} Contingency Measures on EPA's recommendation, but they are still part of the Utah PM_{10} SIP under Utah law. We are adding a new sentence at the beginning of Subsection IX.A.10.c(10): "This Contingency Plan supercedes Subsection IX.A.8, Contingency Measures, which is part of the original PM_{10} SIP," and will give public notice of that change if it is adopted by the Air Quality Board. If the current proposals are adopted, the new PM_{10} Maintenance Plan will include as a contingency measure a re-evaluation of the threshold that triggers a red-burn day, and R307-302-3(3) will immediately require that red-burn days be triggered at 110 μ/m^3 instead of the current 120 μ/m^3. Thus, in case the PM_{10} contingency measures are ever triggered, the 110 μ/m^3 trigger for red-burn days would be implemented immediately, and UDAQ will research whether that is the appropriate trigger level, and whether and how to implement other contingency measures listed in the Maintenance Plan.

Comment # 135. *In R307-302-3(4), the phrase "After January 1, 1999" is outdated and should be deleted. {Comment made by Wasatch Clean Air Coalition}*

Response: UDAQ agrees, and has removed the phrase.

"[~~After January 1, 1999, w~~]When the ambient concentration of PM2.5 measured by the monitors in Salt Lake, Davis, Weber, or Utah Counties…"

Comment # 136. *R307-302-3(4) "Davis, Salt Lake, Utah, Weber Counties: Residential Fireplaces and Stoves: No-Burn Periods for Fine Particulate." - EPA asked for an*

explanation of the rationale for calling no burning period when $PM_{2.5}$ levels reach 52 microgram per cubic meter. {Comment made by the EPA}

Response: On January 6, 1999, the Air Quality Board added the rule to call no-burn periods when $PM_{2.5}$ levels are high and increasing, in order to protect public health and avoid exceeding the then-new health standard for $PM_{2.5}$. Such a requirement is not federally-required, has never been submitted to EPA for approval in any SIP, and will not be submitted to EPA as part of the PM_{10} Maintenance Plan. It is a state-imposed pro-active requirement to protect the health of Utah citizens.

Comment # 137. *Deleted section R307-302-4 "Davis, Salt Lake, Utah, Weber Counties: Residential Fireplaces and Stoves: violations" - EPA wants to know how UDAQ intends to enforce no-burn periods if this provision is removed. {Comment made by the EPA}*

Response: Provisions outlined in this deleted section of R307-302 are established in R307-302-3 (2), (4), and R307-302-4 (1). UDAQ removed this section of the rule to reduce redundancy. It is not necessary to have a separate provision in the rule stating that not complying with the conditions of the rule is a violation of the rule. As with all of our other rules, if a person does not comply with the requirements it is considered a violation of the rule.

Comment #138. *R307-302-4 allows the executive secretary to use either meteorological conditions or monitored pollution levels, to trigger a no-burn period for Carbon Monoxide. Similar flexibility for Fine Particles should be include in R307-302-3. {Comment made by Wasatch Clean Air Coalition}*

Response: The current language of R307-302-3 provides enough flexibility to call a no-burn period when it is needed and most effective. UDAQ uses its experience with pollution data and its relationship with meteorological conditions to call no burn periods.

R307-305

Comment # 139. *R307-305-5 "Emission standards for sources located in PM_{10} nonattainment and maintenance areas: compliance testing" - EPA believes that UDAQ should establish a schedule for collecting back half emissions data. This is a similar comment made regarding section IX.H of the SIP. EPA also stated that UDAQ should use Method 202 and not a method to be approved by the executive secretary. {Comment made by the EPA}*

Response: UDAQ has been collecting back half emissions data since 1991. Therefore, a schedule is not necessary. UDAQ has not proposed to eliminate this

requirement. UDAQ agrees that Method 202 should be used to collect back half data; therefore, R307-305-5 was revised to reflect this.

"Compliance testing for PM10, sulfur dioxide, and oxides of nitrogen emission limitations shall be done in accordance with Section IX, Part H of the state implementation plan. PM10 compliance shall be determined from the results of EPA test method 201 or 201a. A backhalf analysis shall be performed for inventory purposes for each PM10 compliance test in accordance with [~~a method approved by the executive secretary.~~][Method 202, or other appropriate EPA approved reference method.]"

Comment # 140. *Deleted section R307-305-5 through 7 "Emission standards for sources located in PM_{10} nonattainment and maintenance areas: TSP provisions" - EPA states that UDAQ will need to demonstrate that removal of the TSP provisions will not interfere with applicable requirements of CAA (see section 110(1) and 193). {Comment made by the EPA}*

Response: R307-305 used to contain emission limits for large sources of particulate matter in all of the TSP nonattainment areas (Utah County, Salt Lake County, Davis County and Weber County). These emission limits were established as part of the TSP SIP in 1979. In 1987, EPA replaced the TSP standard with the PM_{10} standard, but the existing TSP SIP and emission limits were maintained to ensure that attainment of the PM_{10} standard was not affected. When the PM_{10} SIPs for Utah County and Salt Lake County were developed in the early 1990s, the emission limits in R307-305 for Utah, Salt Lake and Davis Counties were removed from the rule because the PM_{10} SIP addressed all of the major sources of PM_{10} in the area. The Weber County provisions were left in place because that area was not covered by the PM_{10} SIP (Weber County was designated attainment for PM_{10}). However, a provision was added to the rule stating that the source specific provisions in Weber County would continue to apply unless modified by an approval order or compliance order issued after February 16, 1982. As explained in the memo to the Board for the rule proposal, all of the listed sources in Weber County have either shut down or have received an approval order that either contains the emission limitation that is in the rule, or a more stringent emission limitation. In addition, the new PM_{10} maintenance plan addresses all major sources of PM_{10} or its precursors that impact the Ogden City nonattainment area.

The bottom line is that removing these provisions will have absolutely no effect. The provisions were developed as part of a SIP that no longer exists, for a TSP standard that no longer exists, and in many cases for sources that no longer exists. Since there will be no reduction in the requirements for any of these sources, there will be no effect on applicable provisions of the Clean Air Act.

Comment # 141. *R307-305-7 "Emission standards for sources located in PM_{10} nonattainment and maintenance areas: compliance schedule," R307-306-7 "Abrasive blasting: compliance schedule," and R307-309-3(3) "Compliance Schedule" - EPA is concerned that the combination of these sections creates a gap in regulatory coverage during the first 6 months after an area is designated nonattainment for PM_{10}, because rules for nonattainment areas do not apply to sources immediately when an area is designated nonattainment. Instead sources have six months to comply with the relevant nonattainment provisions. {Comment made by the EPA}*

Response: UDAQ added language to R307-305-7, R307-306-7, and R307-309-3(3) that clarifies statewide (R307-201, R307-205, and R307-206) rules continue to apply during 180 day transition period.

"R307-305-7
The provisions of R307-305 shall apply to the owner or operator of a source that is located in any new PM10 nonattainment area 180 days after the area is officially designated a nonattainment area for PM10 by the Environmental Protection Agency. [Provisions of R307-201 shall continue to apply to the owner or operator of a source during this transition period.]"

"R307-306-7
The provisions of R307-306 shall apply in any new PM10 nonattainment area 180 days after the area is officially designated a nonattainment area for PM10 by the Environmental Protection Agency.[Provisions of R307-206 shall continue to apply to the owner or operator of a source during this transition period.]"

"R307-309-3(3)
Compliance Schedule. Any source located in a new nonattainment area for PM10 is subject to R307-309 180 days after the area is designated nonattainment by the Environmental Protection Agency.[Provisions of R307-205 shall continue to apply to the owner or operator of a source during this transition period.]"

R307-306

Comment # 142. *R307-306-3 "PM10 Nonattainment and Maintenance Areas: Abrasive Blasting: applicability" - Include in the section sources listed in Section IX.H of the SIP. This will match the exclusion in R307-206-3. {Comment made by the EPA}*

Response: UDAQ agrees, and will add the suggested language to R307-306-3 as follows:

"R307-306 applies to any person who operates abrasive blasting equipment in a PM10 nonattainment or maintenance area[or to sources listed in Section IX, Part H of the state implementation plan]."

H. EPA Comments Regarding the Outstanding UDAQ April 18, 2002 Commitments:

Comment # 143. *As the Utah Air Quality Board works toward adoption of a maintenance plan and a request to redesignate Utah County, Salt Lake County, and Ogden City PM_{10} nonattainment areas to attainment, the EPA would like to remind the Board and the UDAQ of the commitments made to EPA in a letter dated April 18, 2002. Based on our preliminary review of UDAQ's proposed draft PM_{10} maintenance plan submittal, the commitments below remain an issue.*

Response:

Director's Discretion:

Comment # 143a. *EPA informed UDAQ that the director's discretion provisions that allow for changes to be made to the SIP without EPA's approval and have resulted in SIP enforceability issues are counter to sections 110(a) and 110(i) of the Clean Air Act (CAA). We informed UDAQ that all directors' discretion provisions need to be removed from the SIP.*

UDAQ indicated that the State is interested in using authority under 40 CFR 70.6(a)(1)(iii) and EPA's White Paper No. 2 to modify SIP provisions through the Tile V permitting process. EPA indicated that we will support the State's use of this authority. The proposed SIP package includes draft SIP language based on this authority, and with some changes (see prior comments), we believe the draft SIP language will address the principles of White Paper No. 2.

In addition, we note that the State's proposal would remove a number of director's discretion provisions from the PM_{10} SIP, and we endorse the State's efforts in this regard. However, we note that the proposed SIP revisions retain a number of director's discretion provisions and add new ones as well. We have made an effort to identify these individually in our comments on the proposed language. We are also concerned that problematic director's discretion provisions may remain in parts of the SIP that the State is not revising as part of this effort. Failure to remove director's discretion provisions from the SIP could jeopardize our ability to approve the redesignation. {Comment made by the EPA; # I1}

Response: UDAQ has removed language from R307-305-2 allowing sources to modify SIP requirements through permitting. Further the PM_{10} SIP has been modified in Appendix H, where individual source specific requirements are delineated removing director's discretion. Concurrently, UDAQ has drafted enabling language in Appendix H of the proposed PM_{10} SIP revisions that incorporates procedures to modify the SIP through a Title V, Operating Permit as permitted by 40 CFR 70.6(a)(1)(iii).

Variance Procedures:

Comment # 143b. *The variance language that exists within the current SIP should be removed. As with director's discretion provisions, variance provisions approved into a SIP may make it appear that we have authorized the State to unilaterally change SIP requirements. This is inconsistent with the Clean Air Act, and the UDAQ variance procedures will not change this basic problem. {Comment made by the EPA; # I2}*

Response: Section 110(i) of the federal Clean Air Act was added to the federal law by the 1977 amendments to the Act. Section 110(i) provides that except for a number of listed exceptions, "no order, suspension, plan revision, or other action modifying any requirement of an applicable implementation plan may be taken with respect to any stationary source by the State or by the Administrator." Because of issues raised by EPA concerning the consistency between the Utah variance provisions and Section 110(i) of the federal Clean Air Act, the Utah rules were amended in November, 1979, to add a restriction on the granting of variances -- allowing the granting of variances as provided by law "unless prohibited by the Clean Air Act." That language has existed in the Utah rules since that date and is currently a part of Utah Administrative Code R307-102-4. The variance rule and its limitation were included in numerous State Implementation Plans and revisions submitted to EPA since 1979. EPA has approved the language as part of those implementation plans and revisions to those plans. A written opinion concerning the variance provisions by Fred Nelson, Assistant Attorney General, is attached to these comments.

UDAQ clarified to the EPA the procedures for implementing the variance provisions, in a copy of the Variance Procedures Memo, dated February 21, 2003, and signed by Richard Sprott. This memo details the procedures that staff follows to assure that all variance requests are processed to determine their consistency with all applicable requirements, including the CAA. Therefore, there is no inconsistency between the CAA and Utah Rule R307-102-4.

Comment # 143c. *(EPA Comment # I3) Enforceable Emission Limits for Major Sources (including 24-hour emission limits):*

Response: UDAQ has included enforceable emission limits for all significant sources located in Salt Lake and Utah Counties (as well as some others in southern Davis County), and these limits are consistently expressed in terms of tons per day. These limits appear in Part IX.H of the proposed SIP, and would replace all that is currently in that Part.

Response: See complete discussion at comment # 56, "Section IX. Part H – Emission Limits and Operating Practices:" (General Comments).

Comment # 143d. *(EPA Comment # I4) Emission Inventory and Modeling Analysis for Sources in Nonattainment areas:*

Response: See discussion at comment # 99, "PM_{10} Emission Inventory"

Comment # 143e. *(EPA Comment # I5) Refinery SRU and Flaring:*

Response: See discussion at comment # 68, "Section IX. Part H – Emission Limits and Operating Practices:" (SRU Turnaround and Upset Flaring Emissions).

NSR/Banking/Trading:

Comment # 143f. *UDAQ needs to address the emission banking and interpollutant trading issue.*

UDAQ has expressed concern regarding EPA's NSR Reform Rule and the impacts that the reform rule may have on what EPA has identified as deficiencies in Utah's NSR rules. EPA has expressed to UDAQ in the past that the State could still continue to work on the emission banking and interpollutant trading issues despite NSR Reform.

UDAQ has also questioned whether EPA's concerns with UDAQ's NSR program would become moot once the areas are redesignated to attainment and fall under the State's PSD rules. We believe these issues will not become moot for the following reasons. First, areas of the State may remain nonattainment for other pollutants even if Salt Lake and Utah counties are redesignated attainment for PM_{10}. Second, we think Utah must have an adequate nonattainment NSR program in place in case any part of the State is designated nonattainment in the future. Finally, some of the issues we have identified apply to PSD and minor source permitting as well as nonattainment NSR. {Comment made by the EPA; # I6}

Response: UDAQ agrees with EPA that there are issues in Utah's nonattainment NSR rule (R307-403) that need to be addressed. However, these issues do not affect the PM_{10} maintenance plan and should be addressed separately. When EPA approves the maintenance plan and redesignates Utah County, Salt Lake County and Ogden City to attainment, R307-403 will no longer apply in the new maintenance areas. The PSD rule, R307-405 will become the permitting program for major sources and major modifications. Utah has either been redesignated to attainment or has submitted a maintenance plan to EPA for all nonattainment areas in the state. When those remaining plans are approved, R307-403 will not apply anywhere in the state, and so any issues in that rule will be academic.

UDAQ also agrees with EPA that Utah needs to have an NSR program in place that will apply in any new nonattainment areas that are designated in the future.

When looking at current monitoring data, it is clear that the two pollutants that are of most concern in Utah are $PM_{2.5}$ and ozone (8-hour standard). EPA has delayed finalizing the NSR reform provisions in the nonattainment permitting rules in 40 CFR 52.24 and 40 CFR Part 51, Appendix S to ensure that these rules are consistent with the implementation guidance for the $PM_{2.5}$ and 8-hour ozone standards. There are significant issues, such as precursors and increment, that must be addressed and it is unreasonable to expect Utah to resolve these issues at the state level prior to resolution of these issues at the national level. UDAQ anticipates that the federal nonattainment area permitting requirements will be finalized sometime this year. UDAQ plans to act expeditiously to revise Utah's nonattainment area permitting rules based on the new federal requirements. In the meantime, the current program is effective and will continue to function during the interim period.

EPA mentions that there are some portions of their comments that apply to Utah's PSD program. UDAQ staff has reviewed EPA's earlier comments, and they seem to apply solely to the nonattainment area permitting program. Utah is in the process of developing a draft revision to R307-405 to incorporate the federal NSR reform provisions into Utah's rule. Utah intends to submit this rule to EPA by the end of the year, as required. If there are any issues with the revised rule, UDAQ welcomes comments from EPA during the public comment period for the revised PSD permitting rule.

Comment # 143g. *(EPA Comment # I7) Unavoidable Breakdown Rule:*

Response: UDAQ has re-proposed a draft of the Excess Emissions rule and submitted it to the EPA on March 3, 2005. UDAQ is committed to continue this rulemaking process.

Comment # 143h. *(EPA Comment # I8) Backhalf Emissions Measuring:*

Response: See discussion at comment # 58, "Section IX. Part H – Emission Limits and Operating Practices:" (Source Testing).

I. Diesel Particulate and NO_X Emissions:

Comment # 144. *Strategies to reduce diesel emissions would be appropriate due to the rail and truck yards near the North Salt Lake monitor that exceeds the $PM_{2.5}$ health standard. We recognize that Utah supports tightening federal standards for locomotive emissions, but there are local strategies that could be implemented. Last year, California Air Resources Board sponsored a risk assessment of diesel exhaust at a rail yard near Sacramento. The study concluded that dangerous concentrations of ultra-fine particulate extend widely outside the rural yard and affect residents for miles around. Specifically, it contributes an additional cancer risk at a rate between 100 and 500 cases per million people over an area in which 14,000 - 16,000 people live, and at a rate of 1 - 100 cases per million people over a larger area in which 140,000 - 155,000 people now live. The small size of the particles makes it an efficient means of delivering chemicals into our bodies. Diesel exhaust is easily inhaled deep into the lungs, where up to 85% of fine particles remains in the lungs 24 hours after initial exposure; this means that diesel exhaust has easy, long-lasting access to the most sensitive parts of the lungs. There are several strategies that could be used, in conjunction with ultra low sulfur fuel, to reduce diesel emissions. First, there are catalyzed diesel particulate filters (DPFs) and diesel oxidation catalysts (DOCs) that reduce PM dramatically. Currently, DPF retrofits for school buses and construction equipment cost in the $500 - 10,000 range; DOCs do not require ultra low sulfur fuel and are cheaper at $700-2500 for school buses and construction equipment, but are less effective. Strategies to reduce idling should be considered; alternatives are auxiliary power generators, auxiliary power units, truck stop electrification, engine idle management technology, and no-idle hear and/or HVAC systems. Union Pacific is now using its first hybrid switching engine at Los Angeles area ports; it operates on an electric battery and a diesel engine that recharges the battery. Union Pacific estimates it will see 80-90% reductions in NO_x, and will use 40-60% less fuel. Reducing NO_x from locomotive emissions by replacing older engines with newer hybrids is also used in the Houston Galveston area as part of the Texas ozone reduction strategies. In Chicago, idle reduction strategies are in place, with reduction of 12.5 tons of NO_x at a cost of $1420 per ton. {Comment made by Environmental Defense and Utah Chapter, Sierra Club}*

> **Response:** Generally, an engine used in a switching yard is idling 70% of the time, and thus wastes significant amounts of fuel, as well as generating emissions of NOx and other pollutants. There are two recent technologies that are promising for the future. The diesel-electric hybrid engine uses a 600-volt battery bank to power a 290-horsepower inline 6-cylinder diesel truck engine; it uses 40 - 60% less fuel and emits 80 - 90% fewer pollutants than conventional train engines. It is also cheaper to purchase, and cleaner, than the newest generation of diesel locomotives. Union Pacific has leased hybrid engines for use in California and Texas. The other technology is the diesel truck-engine switch locomotive (TES), which uses two state-of-the-art diesel engines developed for large, over the road trucks. EPA is expected to certify TES under its new Tier 2 standards.

Utah DAQ encourages Union Pacific to evaluate the positive environmental and economic benefits and expand the use of this technology within Utah, especially in urban areas.

DAQ staff has been consulting with personnel in school districts along the Wasatch Front to encourage use of cleaner school buses.

J. Health and High $PM_{2.5}$:

Comment # 145. *EPA's Clean Air Science Advisory Committee has deemed $PM_{2.5}$ to be more dangerously unhealthy than was known when the standard was set in 1997, and EPA will issue a stronger standard soon. The pollutants that cause $PM_{2.5}$ are the same as those causing PM_{10}. Yet we have before us a Plan that proposes that says we don't have to worry about PM_{10} any more and can begin discussing increments available to add more PM_{10} to an area with a rapidly growing population including many young children, pregnant women and people with heart and lung problems--those sensitive populations that are susceptible to health effects even below the federal health standard. What this Plan proposes in terms of increased PM_{10} pollution is really about how much more $PM_{2.5}$ pollution we can add to the Wasatch Front. We should be addressing how we can reduce the $PM_{2.5}$ levels that we have now. {Comment made by Sierra Club, Utah Chapter}*

> **Response:** UDAQ began addressing $PM_{2.5}$ pollution long before EPA issued a federal health standard for it and expects to continue to do so; some of the provisions that EPA adopted to regulate $PM_{2.5}$ were based on the knowledge gained through data collected and analyzed in Utah and other states. Most of the strategies that Utah adopted to control PM_{10} also control $PM_{2.5}$ because $PM_{2.5}$ is a large portion of the overall PM_{10} measurements during wintertime temperature inversions. Within a year after EPA issued the $PM_{2.5}$ standard, Utah began proceedings to regulate woodburning based on monitored and projected levels of $PM_{2.5}$ (see response to #136 above). UDAQ will continue to work to find ways to reduce $PM_{2.5}$ throughout the state, and is developing strategies by working with local communities.

Comment # 146. *We are very concerned about the reported exceedances at the North Salt Lake monitor. We should be trying to reduce $PM_{2.5}$. This monitor is near refineries, gravel operations, construction sites, and residential areas. {Comment made by Sierra Club, Utah Chapter}*

> **Response:** UDAQ will take action to correct high $PM_{2.5}$ values, as needed, in any area. It is possible that the excessive $PM_{2.5}$ in 2004 at the North Salt Lake monitor had natural causes. One such possibility is blowing dust from the beaches of the Great Salt Lake; due to the 6-year drought, the beach area was both larger and drier in 2004 than it had been historically. UDAQ staff are acquiring and analyzing data needed to understand the precise nature of the problem; we will know more when we receive the results of the filter analysis.

Comment # 147. *PM_{10} and $PM_{2.5}$ are closely related and Utah should consider them together, especially since Salt Lake County is currently violating the annual $PM_{2.5}$ standard [at the North Salt Lake monitor]. We understand that the data will not be certified until June 1, the average of 15.2 μ/m^3 is a concern. This monitor is near several*

refineries, highway and railway corridors, rail and truck yards, gravel pits, and several residential areas. Because must of the particulate pollution in the Salt Lake area is due to industrial emissions and is in the smaller particle size range, the PM_{10} plan should set the framework for complying with the $PM_{2.5}$ standard as well. Moreover, there is a large body of new health effects studies showing further evidence of the serious adverse health effects of $PM_{2.5}$, including respiratory and cardiovascular events that explain morbidity and mortality observed in epidemiological studies. Fine particles exacerbate preexisting illness in children with asthma, emergency room visits, and premature deaths. With this maintenance plan, Utah has the responsibility and the ability to begin to protect its citizens from fine particles and to fulfill the Clean Air Act's bedrock mandate to restore healthy air "as expeditiously as practicable." {Comment made by Environmental Defense and Utah Chapter, Sierra Club}

Response: UDAQ understands the importance of maintaining all of the health-based standards, including the $PM_{2.5}$ standard, throughout the state.

Comment # 148. *North Salt Lake is currently very close to a violation of the $PM_{2.5}$ health standard, and a recent permitting action indicated that a sulfur dioxide dispersion analysis model predicted an exceedance of the 24-hour sulfur dioxide standard in terrain directly east of a refinery in North Salt Lake. Dispersion modeling does not account for large flaring events; thus, there could be episodic events with emissions far beyond that modeled. {Comment made by Wasatch Clean Air Coalition}*

Response: For discussion of the North Salt Lake monitor, see the response to comment #146 above. For a discussion of upset flaring events see the response to comment #68.

Comment # 149. *Monitoring refinery flares for emissions of $PM_{2.5}$ precursors would be an important start in knowing more about what is in the flares in order to better control such emissions. Sulfur dioxide emissions have been detected as a problem in the refinery area. {Comment made by Sierra Club, Utah Chapter}*

Response: Again, this Plan appropriately addresses PM_{10}, not $PM_{2.5}$. However, as noted in the response to #145 above, UDAQ is already taking action to reduce $PM_{2.5}$ emissions. As to any problems with sulfur dioxide in the area of the refineries, see the response to #148 above.